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ABSTRACT

Employment other than farming or ranching is very limited on the Papago Reservation, and most Papagos do not possess the skills needed for off-reservation employment. In a survey of 382 Papagos (females and males), only 27% of the Indians aged 16 and over considered work a major activity in 1967-68. It is noted that 73% of the Indians spoke Papago in the home and that the average of 8 years of formal education also limited English-speaking ability. Low educational attainment and lack of English language skills made it difficult for the Papago to compete for the jobs existing in the area. The male labor force reached a peak in the 30-39 age group, with a decline starting after age 40. Withdrawal from the labor force among women was greatest in the 30-39 age group. Some 38% of the Papagos of working age listed family responsibilities as their reason for not seeking off-reservation employment, while the reservation had an unemployment rate 3 times greater than the rest of Arizona's unemployment rate. Income was low, with 92% of the individuals receiving less than $3000 per year. Some 85% of the families, which averaged 6 members, received under $5000 annually. Since 64% of the families did not own cars, transportation presented another problem for the unemployed seeking employment off the reservation. (LS)

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PAPAGO RESERVATION MANPOWER RESOURCES

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INDIAN MANPOWER RESOURCES IN THE SOUTHWEST

A PILOT STUDY

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Preface

The Papago Reservation was one of five Indian reservations located in Arizona and New Mexico included in an Indian Manpower Resource Study that was started in June, 1967. The entire study was made possible by a grant from the United States Employment Service which provided the basis for a research contractual agreement between the Bureau of Business and Economic Research, College of Business Administration, Arizona State University, and the Arizona State Employment Service.

This monograph dealing with Papago Reservation manpower resources is a part of a larger study which also includes the Fort Apache, San Carlos, Acoma, and Laguna reservations. It is published under the title *Indian Manpower Resources in the Southwest: A Pilot Study.*

Space does not permit a discussion of the sampling method used to generate data and thus Chapter 1 of the larger study should be consulted for a review of this important aspect. It is mandatory to mention here, however, that the method used proved accurate with respect to overall population characteristics. Responses to a few individual questions having multiple parts occasionally had cell frequencies so small that they escape statistical validation. Yet, these data were suggestive and in some cases are presented in the study since no other data are available providing better information on such important manpower utilization problems.

The primary purpose of this study is to provide basic and necessary manpower information essential for planning and developing effective services and programs for Papago Indians.

Benjamin J. Taylor, Director
Bureau of Business and
Economic Research

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Papago Reservation Manpower Resources

Papago Indians inhabit not only the Papago Reservation but also the San Xavier and Gila Bend Reservations. Generically, all three are included in the study as the Papago Reservation; the reservations cover approximately three million acres of land, extending from the Mexican border in the south to near Casa Grande in the north. The Papago population has been estimated at approximately 14,000 when the off-reservation Indian is included in the total.[1]

It has been calculated that approximately 48 percent of all Papago Indians live on the reservation most of the time. Even though the reservation population appears stable in total, this does not necessarily mean that the same individuals remain on Indian land throughout the entire year. It is of interest to note that Census records indicate that nearly 60 percent of the non-reservation population moves on and off the reservation once or more each year.

The Papago survey sample was drawn on May 1, 1968 on the basis of the San Xavier Indian Health Center's on-reservation list. At that time, the total population 16 years of age and over was estimated at 3,258. The actual survey sample size is 382.

This study of the Papago deals with on-reservation employment sources, current characteristics of the manpower resource, employment and unemployment, occupation and industry characteristics, training and education, and income and expenditure patterns.

On-Reservation Nonfarm Employers

The migratory nature of the Papago Indian is largely explained by the extent of nonfarm employment opportunities on the reservation. Employment by source in June, 1968, was estimated as illustrated in Table I.

TABLE I
PAPAGO RESERVATION NONFARM INDIAN EMPLOYMENT

Employer	Number Employed
Bureau of Indian Affairs	125
Papago Tribe	33
Restaurant	4
Gasoline station	3
Public Health Service	48
Churches and schools	17
Trading Posts	7
Mining	5
Kitt Peak Observatory	19
Construction—highways	2
Construction—schools	8
TOTAL	271

Opportunities for nonfarm employment on the reservation are virtually nonexistent. The 1962 report by the Bureau of Indian Affairs identified only 196 jobs.[2] The current total of 271 jobs exposes the fact that the Papago must and does leave the reservation out of economic necessity. There are no exact historical data that show precisely where the Indian takes up residence, but it is believed that it is usually in small towns adjacent to the reservation. At this point one may only conclude that the economic development shared by the State of Arizona and the United States nationally has completely passed by the Papago Reservation.

The reservation is not rich in natural resources worthy of development. It consists largely of desert land with potential evaporation estimated at eight to ten times greater than rainfall. Agricultural pursuits are generally not within the range of possibility with the exception of range grazing of cattle and livestock. Land suitable for grazing does not have the capacity to support over 12,000 head of cattle and horses. Obviously, investment in land does not appear feasible

at this time. The lack of known adequate water supply has been an important impediment to development of agricultural resources.

Mineral resources are not adequate to support the on-reservation population, not to mention the Indians residing in adjacent areas who maintain close ties with relatives on Indian land. It appears that investments may better be directed toward the Papago himself, rather than to the sand and shrubbery of the barren desert reservation. Investment in the human resource requires a great deal of knowledge about the current state and potential of the Papago. It is to this task of learning about the Papago that we now turn.

Characteristics of the Manpower Resource

The Papago on-reservation population 16 years of age and over, as Table II shows, is made up of almost equal numbers of males and females: 50.8 percent are females and 49 percent are males.

TABLE II
PAPAGO POPULATION BY AGE AND SEX

	Females		Males	
Age Group	Percent of Total Females	Percent of Total Population	Percent of Total Males	Percent of Total Population
16-19	7.7	3.9	12.3	6.0
20-29	16.0	8.1	16.6	8.1
30-39	27.3	13.9	18.7	9.2
40-49	19.1	9.7	12.3	6.0
50-59	15.0	7.6	16.6	8.1
60-69	8.3	4.2	12.3	6.0
70-79	4.1	2.1	8.6	4.2
80-89	2.6	1.3	2.1	1.1
90-99	0.0	0.0	0.5	0.3
TOTAL	100.1*	50.8**	100.0	49.0**

N = 194 females; 187 males.
* Does not sum to 100 percent due to rounding.
** The two categories combined do not sum to 100 percent due to rounding.

Age and Sex

The largest single age group for both males and females is the 30-39 category. Approximately 27 percent of all Papago females are

in this age group and they account for 14 percent of the working-age population. Almost 19 percent of Papago men are within the same age interval, and this group accounts for slightly over 9 percent of the reservation population.

Women between ages 20-59 constitute 77.4 percent of tribal females of working-force age. They represent just under 40 percent of the total female Papago working-age population. Men in the same age categories account for only 64.2 percent of tribal males of working age and 31.4 percent of the total tribal population.

In four of the nine age groups women account for a greater proportion of the total population than do men: 20-29, 30-39, 40-49, and 80-89. Women aged 80-89 account for roughly the same proportion of total females and the total tribal population as do males in the same age group. They represent 2.6 percent of females, and men represent 2.1 percent of males. Women and men, respectively, account for 1.3 and 1.1 percent of the tribal working-age population. Individuals of advanced age are not normally considered to be potential employees. Their contribution to tribal output is more likely to be restricted to handicraft-related tasks.

At the time of the study, no woman in the sample had attained age 90, but the sample showed about 0.5 percent of tribal men are pushing well into their nineties, and they account for 0.3 percent of the population.

Women between ages 30-49 outnumber men rather significantly. Females aged 30-39 constitute nearly 14 percent of the tribal population, whereas men account for less than 10 percent of the total. Between ages 40-49, women represent 9.7 percent of the population and men, 6.0 percent; women of this age group, therefore, are a larger potential labor resource than men. Employers who prefer to employ workers between 30-49 would find a greater available number of women than men. Together they constitute a considerable pool of potential workers.

Men and women in their twenties each account for about 8 percent of the total population. Men of this age account for a slightly greater percentage of their sex (16.6) than women of their sex (16.0). In terms of age, the potential for the labor force is about the same for men and women.

There are more male than female teen-agers of working-force age. Approximately 8 percent of women and 12 percent of men are between 16-19 years of age. Males constitute 6 percent of the total

population and females account for 3.9 percent of it; therefore, job development to absorb the teen-age manpower resource would have to be more oriented toward males than females.

When the labor force potential is considered in general, however, the possibility of participation is greater for females than males. Women account for about 47 percent of the population between the ages of 16-69. Men account for about 43 percent of the total. It is assumed that little activity, outside or handicrafts, will be forthcoming after age 69. It is also assumed that employers would be reluctant to hire individuals of advanced age when a surplus labor pool of younger individuals is available.

Additional characteristics of the Papago population were ascertained through the research, and these provide further insights into the Papago labor force potential.

Family Characteristics

Marital Staus. Marital status is a good indication of the need for an individual to permanently attach himself to the labor force. Table III reports the marital status of the Papago on the basis of 381 responses. Nearly 56 percent of the working-age population is married;

TABLE III
MARITAL STATUS OF THE POPULATION

Marital Status	Percent
Married	55.9
Widowed	9.7
Divorced	1.6
Separated	2.6
Never-married	30.2
TOTAL	100.0

N = 381

however, a relatively high percentage (30.2) has never married. The size of the latter group may very well indicate the lack of financial ability among many Papagos to support a family. Together, both sexes between ages 16-29 account for only 26.1 percent of the total tribal working-age population, as shown in Table II. These data indicate that the Papago may forego marriage because of a lack of

economic opportunities. The possible necessity for income sharing within families may dictate against the addition of new members to the extended family, whether the addition be a spouse or a child.

Nearly 10 percent of respondents are widowed, but only 1.6 percent reported they were divorced. Those who have been separated account for 2.6 percent of the population. It can be asserted that the Papago enjoy a relatively stable family structure. Divorces and separations combined account for only 4.2 percent of the working-age population. The relative stability of family structure may be a reflection of Roman Catholic Church influence.

Number of Children. Additionally, further characteristics of family structure are reflected in Table IV in terms of the number of children reported by respondents. The median number of children of those responding is two. This figure, however, includes single respondents as well as those who are married, divorced, and separated. There is no indication in the survey of the number of children that should actually be classified as dependents.

TABLE IV

NUMBER OF CHILDREN REPORTED BY RESPONDENTS

Number of Children	Percent
None	35.9
One	11.2
Two	9.6
Three	9.3
Four	9.3
Five	9.0
Six	4.8
Seven	2.7
Eight or more	8.2
TOTAL	100.0

N = 381

Approximately 8 percent of respondents have eight children or more, indicating a significant number of large Papago families. Roughly 9 percent of respondents replied to each category of number of children between two and five, and taken together these constitute 37.2 percent of the population. Nearly 36 percent reported having no children. It appears that Papago families are relatively large.

Table V relates the number of children and marital status of the respondent. This tabulation permits the exclusion of the never-married respondents from a calculation of median children per family unit except that those who report having children are included.

The median number of children reported by married respondents is four, compared to two previously reported as the median. Over 90 percent (91.3) of the respondents who never married do not have children. About 4 percent have children, usually one, and very few reported more than one child. Some did not choose to report, and it may well be that the decision was based on the lack of desire to report children out of wedlock.

It is significant to note that nearly 14 percent of married persons reported eight or more children. Nearly 12 percent have none. Fourteen percent report one child, and nearly 11 percent have two. About 14 percent have five children in their families. Only 3 percent reported seven children. In short, the Papago family size is large with a median of four children for married couples.

TABLE V
NUMBER OF CHILDREN BY MARITAL STATUS
(Percent)

Marital Status		Number of Children 1	2	3	4	5	6	7	8+	0	Info. not Avail.	Total
Married	(1)	14.2	10.9	13.7	11.3	14.2	6.1	3.3	13.7	11.8	0.9	100.1
	(2)	7.9	6.0	7.6	6.3	7.9	3.4	1.8	7.6	6.6	0.5	55.6
Widowed	(1)	16.2	16.2	10.8	18.9	10.8	10.8	0.0	5.4	10.8	0.0	99.9
	(2)	1.6	1.6	1.0	1.8	1.0	1.0	0.0	0.5	1.0	0.0	9.5
Divorced	(1)	0.0	0.0	0.0	50.0	0.0	16.7	16.7	0.0	16.7	0.0	100.1
	(2)	0.0	0.0	0.0	0.8	0.0	0.3	0.3	0.0	0.3	0.0	1.7
Separated	(1)	10.0	50.0	10.0	10.0	0.0	10.0	10.0	0.0	0.0	0.0	100.0
	(2)	0.3	1.3	0.3	0.3	0.0	0.3	0.3	0.0	0.0	0.0	2.8
Never-married	(1)	4.4	0.9	0.9	0.0	0.0	0.0	0.0	0.0	91.3	2.6	100.1
	(2)	1.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	27.6	0.8	30.3
Info. not avail.	(1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
	(2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
TOTAL	(2)	11.1	10.1	10.1	9.2	8.9	5.0	2.4	8.1	35.5	1.6	100.2*

N = 381
(1) = Percent of total in each marital status category.
(2) = Percent of total responses.
* Does not sum to 100 percent due to rounding.

Nearly 10 percent of the population is widowed. For this group of individuals, the median number of children is four. It is likely that the children reported by the widowed group are not dependent on parents for support. It may be assumed that the widowed category is comprised largely of older persons. The number of children reported by married persons, however, does not necessarily represent dependent children, either.

About half of the divorced persons reported four children whereas about 17 percent reported six and 17 percent reported seven. Nearly 17 percent reported none. One-half of those separated from their mates have two children with 10 percent, respectively, reporting one, three, four, six, and seven children. Separation status accounts for 3 percent of working-age respondents and divorce for about 2 percent.

Tables IV and V again show that Papago family size is large, and this implies responsibilities that may cause some individuals to postpone or to forego marriage. Thus, there appears to be an incentive to desire work even if individuals do not express this through actively seeking jobs.

Educational Attainment of the Population

The last grade of formal education completed is normally taken as an indicator of the ability to perform skilled and unskilled tasks with minimal on-the-job instruction. Educational attainment is, therefore, an important variable considered in employer hiring standards. Table VI illustrates the educational attainments of working-age Papagos.

It is important to note that no Papago Indian reports earning a college degree. Females seem more likely to have some college education than males since more women indicated one and two years of college completed than did men. Roughly 1 percent of all females report having attended college, but only about one-half of 1 percent of the men so indicated. It seems reasonable to assert that little attention has been paid to college education by the Papago Indian. This may be due largely to pressing financial responsibility to support large family groups. It may also indicate a lack of incentive to pursue such a course.

More male than female Papagos appear to earn a high school diploma. Nearly 16 percent of the men in the survey reported completion of twelve years of formal education. This total, however,

represents only 7.6 percent of the total working-age population. Approximately 11 percent of females completed high school, representing 5.5 percent of the tribal population. Only 13.1 percent of the

TABLE VI
EDUCATIONAL ATTAINMENT OF THE POPULATION

Educational Attainment by Grade Completed	Female		Male	
	Percent of Total Population	Percent of Total Females	Percent of Total Population	Percent of Total Males
None	4.7	9.3	2.9	5.9
1	3.4	6.7	5.0	10.2
2	1.6	3.1	2.4	4.8
3	3.2	6.2	1.1	2.1
4	1.9	3.6	3.4	7.0
5	3.9	7.7	1.8	3.7
6	2.4	4.6	1.8	3.7
7	4.2	8.3	3.2	6.4
8	6.0	11.9	4.5	9.1
9	4.2	8.3	6.3	12.8
10	3.9	7.7	3.4	7.0
11	2.4	4.6	2.6	5.3
12	5.5	10.8	7.6	15.5
13	0.5	1.0	0.5	1.1
14	0.5	1.0	0.0	0.0
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17+	0.0	0.0	0.0	0.0
Info. not available	2.6	5.2	2.6	5.4
TOTAL	50.9*	100.0	49.1*	100.0

N = 194 females; 187 males.

* The two categories combined do not sum to 100 percent due to rounding.

working-age population appear to have completed four years of high school.

Twenty-five percent of all Papago males dropped out of high school after completing either grades nine, ten, or eleven. Even so, they still account for 12 percent of the total working-age population.

Women high school dropouts account for a smaller proportion of the total population (10.5 percent).

Those completing at least one year of high school, and including those with some college training, account for only 37.5 percent of total male and female Papago population. Approximately 57 percent of the population has completed the eighth grade or less. Five percent did not respond to the question asked. Significant training of the Papago appears to be necessary to provide them with skills enabling them to compete with the general population for jobs. The average Papago has completed only eight years of formal education. Nearly 8 percent have no formal training at all. However, appproximately 7 percent have achieved some skills by earning certificates from various technical schools.

The current educational attainments of the on-reservation Papago Indian defined as being of labor force age make it difficult to attract industry to the reservation to provide work opportunities. Considerable occupational training would be required, given the current state of technology in most industries, to raise the Papago manpower resource into an employable status.

Facility with English. Extensive training in the English language would have to be provided to prepare the Papago to participate in labor force activity. Survey respondents were asked: "What language do you most frequently speak in the home?" On the basis of 382 responses, it was found that the Indian language is spoken most frequently in the home of nearly 73 percent; only 27 percent replied that English is spoken often. About 77 percent replied they could speak English. Even so, this leaves 23 percent of the population expressing an inability to communicate in English. This finding is supported by responses to the question asked regarding whether the individual is able to read English. Approximately 73 percent are able to read newspapers and books written in English, but 27 percent can not do so. Obviously, some respondents reported that they can speak the language, but can not read it. It may well be that the relatively low levels of educational attainment are reflected here. Some Indian farm crews as well as forest firefighting crews have in the past been directed by Indians who speak both an Indian language and English. Some work pursuits, however, do not lend themselves to an indirect method of communication. Training to make the Papago employable involves far more than work-related skills training; it also seems to include the need for basic educational skills.

Utilization of the Human Resource on the Papago Reservation

There are estimated to be 3,258 persons 16 years of age or over residing on the Papago Indian Reservation. This is the size of the reservation's total working-age human resource at the time the survey was conducted. To what extent is this human resource utilized?

One of various indices of manpower utilization is the labor force participation rate. The participation rate indicates the extent to which Papagos are committed to the labor market. Unemployment rates provide another means of indicating the degree of utilization of the manpower resource. The latter rate reveals the extent to which those in the labor force are being utilized. The unemployment rate is not a comprehensive measure since some individuals who are included as employed may be employed only part time or on a seasonal basis even though they desire employment full time all year-round. The following sections examine the various indices of Papago manpower utilization.

TABLE VII

MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

Activity	Percent
Working	26.7
With a job but not at work	0.5
Looking for work	3.7
Keeping house	30.2
Going to school	11.4
Unable to work	11.6
Retired	7.1
Other	8.7
TOTAL	99.9*

N = 378

* Does not sum to 100 percent due to rounding.

Labor Force Participation

The people contacted in the survey were asked about their primary activity in the year prior to the survey. Their responses appear in Table VII. Only 27 percent of the population responded that they had worked most of the prior year. Another 4 percent either had a

job but were not at work, or were looking for work. Included in the labor force are those people working, those with a job but not working, and those looking for work. Table VII shows that only 30 percent of the Papagos 16 years of age or older are in the labor force.[3] This compares to a labor force participation rate of 59.4 percent for the United States as a whole. Thus, the labor force participation rate of the Papagos is half that of the U. S. rate. The lack of on-reservation employment opportunities provides a partial explanation of this lower participation rate.

The difference between the labor force participation rate of the Papagos and the labor force participation rate for the entire United States is of such magnitude that it warrants close attention. Why is it that only half as many Papagos as compared to corresponding numbers of the U. S. population enter the labor market?

The comparatively low rate of labor force participation cannot be explained by an unfavorable age distribution of the Papago population. The survey results indicate that there is no marked difference between the age distributions of the Papago and the United States as shown in Table VIII. Differences are relatively small and can be attributed in part to sampling variation. Differences might exist, however, because of out-of-date census data. Nevertheless, since we deal here with a population over 16 years of age, greater reliability can be attributed to the results. A note of caution is that the Papago

TABLE VIII

AGE DISTRIBUTION: PAPAGO AND UNITED STATES

(Percent 16 years of age or older)

Age Group	Papago	U. S.
16-19	10.1	8.7
20-29	16.3	17.9
30-39	23.2	20.2
40-49	15.4	18.6
50-59	15.7	14.9
60-69	10.3	11.1
70 and over	8.9	8.5
TOTAL	99.9*	99.9*

N = 381

* Does not sum to 100 percent due to rounding.

Source: U.S. Census of Population, 1960, for U.S. age distribution.

migratory pattern could alter the finding if the study were run during a month different from the one chosen (May 15–June 15).

There is a relationship between age and labor force participation on the Papago Reservation. Certain age groups are characterized by labor force participation rates that are extremely low when compared to the rates for the United States. The labor force participation rate for the 16-19 age group is 7.9 percent for the Papagos as compared to 44.2 percent for the United States (Table IX). Apparently Papagos in the 16-19 age group do not enter the labor force to the same extent as other Americans in the same age group. As revealed in Tables X and XI, the participation rate for males in the 16-19 age group is greater than the rate for females. This parallels the U. S. experience. The rates for both males and females in the 16-19 group are about 20 percent of those found for the national average representing comparable age groups.

TABLE IX

CIVILIAN LABOR FORCE PARTICIPATION RATES:
PAPAGO RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Papago	U. S.
16-19	7.9	44.2
20-29	48.4	67.0
30-39	45.5	70.3
40-49	28.3	73.4
50-59	25.0	74.2
60-69	15.4	44.4
70 and over	12.1	11.2
All age groups	30.3	59.4

Source: Manpower Report of the President, 1964, for U.S. rates.

The labor force participation rates of the Papagos 70 years of age and older tend to be equal to those for the United States. The participation rate for male Papagos is greater than that for female Papagos. This is similar to the pattern that prevails for the nation as a whole. The survey results indicate that the participation rate for female Papagos is greater than the participation rate for U. S. females in the 70 and older age group. This difference may, however, be the result of sampling variation.

TABLE X
FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
PAPAGO RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Papago	U. S.
16-19	6.6	37.4
20-29	38.7	49.2
30-39	24.5	45.2
40-49	10.8	52.2
50-59	7.0	55.9
60-69	18.8	28.4
70 and over	7.7	5.7
All age groups	18.6	41.5

Source: Manpower Report of the President, 1964, for U.S. rates.

The Papago age group with the highest labor force participation rate is the 20-29 group. Participation rates on the Papago Reservation decrease for successive age groups. The Papago experience does not parallel the U. S. experience in this respect. For the United States as a whole, participation rates continue to increase through the 50-59 age group. It would appear that whereas participation rates for the United States remain high throughout the 20-60 age period, there is

TABLE XI
MALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
PAPAGO RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Papago	U. S.
16-19	8.7	51.4
20-29	58.1	88.0
30-39	77.1	97.8
40-49	56.5	96.3
50-59	41.9	92.3
60-69	13.0	63.0
70 and over	15.0	18.8
All age groups	42.5	79.7

Source: Manpower Report of the President, 1964, for U.S. rates.

a marked withdrawal from the labor force on the Papago Reservation after age 40. The Papago participation rates for the 40-49, 50-59, and 60-69 age groups are approximately one-third of the U. S. rate.

The pattern of participation rates for female Papagos is similar to that of Papagos in general except that the rates are lower for all categories of Papagos than the general U. S. experience. Female Papagos in the 20-29 age group have a labor force participation rate of 38.7 percent, which is almost 80 percent of the U. S. rate for women in this age group. Participation rates for U. S. women reach a peak of 55.9 percent for the 50-59 age group. Participation rates for Papago women reach a peak in the 20-29 age group, and fall off to 7 percent for the 50-59 group. Papago women begin their withdrawal from the labor force at a much earlier age than do women in general.

Papago male participation rates reach a peak in the 30-39 age group. The rate for Papago males in this group is 77.1 percent as compared to 97.8 percent for the United States. Whereas U. S. participation rates maintain themselves above 90 percent until the 60-69 age group is reached, Papago male participation rates drop off to 56.5 percent for the 40-49 age group and 41.9 percent for the 50-59 age group. Papago males appear to withdraw from the labor force when they are in their 40's.

Several observations emerge from this evaluation of the labor force participation rates on the Papago Reservation and their comparison with U. S. participation rates.

(a) Entry of Papagos into the labor force is delayed. This is evidenced by the relatively low participation rates of the 16-19 age group for both males and females.

(b) Papago labor force participation comes closest to U. S. labor force participation in the 20-39 age group. These relatively high Papago rates are still well below the U. S. rates.

(c) Withdrawal from the labor force begins at an earlier age on the Papago Reservation than it does in the United States as a whole. This is especially true for women, where it appears that a movement away from labor force participation begins with the 30-39 group. The decline in Papago male labor force participation rates begins with the 40-49 group.

In summary, when compared to the United States in general, the Papago has a lower rate of participation overall, later entry into the labor force, and earlier withdrawal from the labor force.

Reason for Not Entering the Labor Force

The percentage of Papagos 16 years of age or older not in the labor force is 69.7 percent. This large group can be thought of as those not having a job and not looking for a job. The percentage of Papagos in this category is much higher than the national average. The question naturally arises as to why the Papago fails to seek employment.

The respondents in the Indian Manpower Resource Study were asked: "If you are not looking for work, what are the reasons you are not looking for work?" The replies to this question are presented in

TABLE XII
REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

Reason	Percent of Those Not in Labor Force*
Believes no work is available	4.0
Couldn't find work	7.0
Lacks necessary schooling, training, or experience	10.5
Employers think too young or too old	15.4
Personal handicap	5.3
Can't arrange for child care	8.3
Family responsibilities	37.7
In school or other training	9.6
Ill health or physical handicap	19.7
Other	13.6
Don't know	4.0

N = 228
* Does not sum to 100 percent since respondents were permitted to list more than one reason for not seeking work.

Table XII. The reason given most frequently for not seeking work was "family responsibility." More than 37 percent of the people in the survey responded that they were not looking for work for this reason. Of those that listed family responsibility as a reason for not seeking work, 86 percent were women. As shown in Table XIII, most of these women were married. Females listing family responsibility as a reason for not looking for work constituted 38 percent of the total female population in the survey. It may be that "family responsibilities" meant to men that they could not leave the reservation to seek em-

TABLE XIII
MARITAL STATUS OF WOMEN LISTING "FAMILY RESPONSIBILITIES" AS A REASON FOR NOT LOOKING FOR WORK

Marital Staus	Percent
Married	76.7
Widowed	4.1
Divorced	1.3
Separated	4.1
Never-married	13.7
TOTAL	99.9*

N = 73
* Does not sum to 100 percent due to rounding.

ployment in distant places because of their desire to remain close to growing families.

Those not looking for work due to ill health or physical handicap comprised 19.7 percent of the total not seeking employment. Of the 226 people not looking for work, a total of forty-five listed this reason. Sixteen of these were females and twenty-nine were males; almost twice as many males, despite the fact that there were slightly more females in the survey. A breakdown by age group and sex of

TABLE XIV
AGE DISTRIBUTION OF PEOPLE WHO WERE NOT LOOKING FOR WORK DUE TO ILL HEALTH OR PHYSICAL DISABILITY

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	6.3	6.9
30-39	6.3	17.2
40-49	18.8	3.5
50-59	37.5	24.1
60-69	25.0	34.5
70-79	0.0	6.9
80 and over	6.3	6.9
TOTAL	100.2*	100.0

N = 16 females; 29 males.
* Does not sum to 100 percent due to rounding.

those who listed ill health or physical disability as a reason for not seeking work is presented in Table XIV. There is a direct relationship between age and the listing of this reason for not seeking work. Of the males offering such a response, 72.4 percent were 50 years of age or older; of the females, 68.8 percent were 50 years of age or older. These survey results suggest that deterioration of health may be an important factor contributing to early withdrawal from the labor force. It may also reflect the types of manual labor performed in the past by men; some tasks result in more injuries than others.

Some people are not in the labor force because of age. As shown in Table XII, 15.4 percent of those not seeking work listed age as a reason for their lack of activity. Table XV shows that more than 90 percent of those listing age as a reason were below 20 years of age or above 49 years of age. The IMRS questionnaire did not inquire into why the respondents think they are too young or too old. It is only possible to speculate on the reasons why those in the under 20

TABLE XV

AGE DISTRIBUTION OF RESPONDENTS WHO REPLIED THAT THEY WERE TOO YOUNG OR TOO OLD FOR EMPLOYMENT

Age Group	Percent of Total Responses	Percent of Total Population in Age Group
16-19	20.0	10.0
20-29	2.9	6.3
30-39	2.9	10.2
40-49	2.9	15.7
50-59	14.3	15.8
60-69	22.9	23.1
70-79	31.4	16.3
80 and over	2.9	2.6
TOTAL	100.2*	100.0

N = 35

* Does not sum to 100 percent due to rounding.

and over 40 brackets listed age as a reason for not seeking employment. Employers may have given Indians in these age brackets such a reason for not hiring them.

The instability of young people, generally, is widely alleged. Furthermore, men are subject to military service and some employers

prefer to employ veterans so as to maintain a turnover rate as low as possible. In addition, persons over 49 may have been refused employment because of age, since the cost of fringe benefits is likely to rise significantly, which has the effect of increasing marginal costs of hiring. It may also be that workers over 49 years of age bring a sporadic employment record with them. Employers, mindful of employment costs, may prefer not to chance an increase in the turnover rate. An increase in the rate of turnover has the effect of raising incremental production costs.

Many labor economists believe that withdrawal from the labor force is related to the belief on the part of the individual that no work is available. Only 4 percent of those interviewed replied that they are not seeking work because they believe no work is available, but another 7 percent replied that the reason for not seeking work is because they could find none. This response also reflects the fact that the people interviewed believed that there was no work available.

The third reason listed in Table XII is also related to the availability of work. Of the respondents who replied that they were not looking for work, 10.5 percent gave the reason as being that they lacked the necessary schooling, training, or experience. The median years of school completed by persons in this group is six. The median education level attained by all persons interviewed is eight years. Those people who are employed have a median education level of ten years. Persons responding that they did not seek employment because they lacked the necessary schooling, training, or experience appear to have a lower education level than employed individuals. Less than one-third of those responding that they lacked schooling, training, or experience achieved some high school training, but some had completed twelve years of school. It is likely that some of those not seeking work and giving the lack of sufficient education, training, or experience as their reason do, in fact, have sufficient education. It is probable that some of the people in this category are unaware of employment opportunities for people with their level of education. It is possible that these people would go to work if jobs consistent with their level of education could be developed.

Certain tentative conclusions can be drawn from the responses to the question on reasons for not seeking work. First, labor force participation of women is very much related to their family status. Reentry into the labor force after child rearing has been completed does not appear to be frequent on the Papago Reservation. Second,

Papagos under 20 and over 49 regard themselves as being excluded from employment because of age. And finally, the lack of labor force participation can, in large part, be attributed to the belief that employment opportunities are unavailable.

Employment Experience of Those Not Usually Employed

Those respondents who were not working in the year prior to the survey were asked: "When did you last work at a regular full- or part-time job or business?" Usable responses were received from 230 Papagos. Approximately 95 percent of these people are not in the labor force. Table XVI reveals 46.5 percent of those who were not employed during the year previous to the survey had never been employed.

TABLE XVI

TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

Time	Percent Responding
Within past twelve months	4.8
One to two years ago	4.8
Two to three years ago	3.4
Three to four years ago	3.9
Four to five years ago	6.1
Five or more years ago	30.4
Never worked	46.5
TOTAL	99.9*

N = 230

* Does not sum to 100 percent due to rounding.

Another 30 percent were employed at some time in their lives but had not been employed during the past five years. Thus, 76.9 percent of those people not employed in the year previous to the survey had either never been employed or had not been employed for more than five years. This appears to be a group that has been out of the labor force for a substantial period of time. Their lack of participation in the labor market cannot be attributed to short-run factors.

Of the eighty-seven Papagos reporting that they never worked, 72.4 percent were women. As shown in Table XVII, married women comprised more than half of the total female group that has never

TABLE XVII
MARITAL STATUS OF THOSE WHO NEVER WORKED
(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	58.7	29.2
Widowed	15.9	29.2
Divorced	0.0	0.0
Separated	3.2	0.0
Never-married	22.2	41.6
TOTAL	100.0	100.0

N = 63 females; 16 males.

worked. On the other hand, the largest group of men that has never worked are in the never-married category. While the age distribution of women who have never worked is spread over all age classes, men who have never worked appear to be concentrated in the 50 and over age groups as shown in Table XVIII. Those who have never worked have a low level of educational attainment. The median years of school completed for the males who have never worked is one year. When this level is compared to the median of nine years of school for men who are employed, the seriousness of minimal education as a factor in keeping men out of the labor force can be appreciated. The median years of school completed by Papago women who

TABLE XVIII
AGE DISTRIBUTION OF THOSE WHO NEVER WORKED

Age Group	Percent Female	Percent Male
16-19	3.1	8.3
20-29	7.9	8.3
30-39	27.0	8.3
40-49	23.8	4.1
50-59	15.9	12.5
60-69	9.5	20.8
70 and over	12.7	37.5
TOTAL	100.0	99.8*

N = 63 females; 24 males.
* Does not sum to 100 percent due to rounding.

have never worked is four years. This compares to a median of eleven years completed for women who are usually employed. This difference among females is still large but not as large as the difference found for males. The smaller difference for women reflects the importance of other factors in terms of female commitment to the labor force. The most important other factor is marital status. Regardless of the number of years of school completed, some married women are likely to withdraw from the labor force. After considering age and marital status, the data suggest that the characteristic that separates those who have never been in the labor market from other members of the Papago community is the low level of educaion of the group that has not been in the labor force.

Seventy Papagos replied that they had worked at some time, but not during the past five years. Of these people, 64.2 percent were women. As shown in Table XIX, 73.3 percent of the women in this group were married and 56 percent of the men were married. While such a high percentage would be expected for women, the high percentage of married men who have not worked in five or more years is difficult to explain except in terms of age.

TABLE XIX
MARITAL STATUS OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Marital Status	Percent Female	Percent Male
Married	73.3	56.0
Widowed	9.0	16.0
Divorced	0.0	4.0
Separated	2.2	4.0
Never-married	15.5	20.0
TOTAL	100.0	100.0

N = 45 females; 25 males.

As shown in Table XX, 96 percent of all the males who had not worked for five or more years are 40 years of age or older. Of the men in this group, 56 percent are 60 years of age or over. This suggests that one of the major factors contributing to men not working for five or more years is age rather marital status. The ages of women who have not worked for five or more years are dispersed over all age groups suggesting that the marital status is more important than age in explaining this long-term withdrawal from the labor market.

TABLE XX
AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Age Group	Percent Female	Percent Male
16-19	0.0	0.0
20-29	8.9	4.0
30-39	24.4	0.0
40-49	26.7	12.0
50-59	26.7	28.0
60-69	6.7	32.0
70 and over	6.6	24.0
TOTAL	100.0	100.0

N = 45 females; 25 males.

The educational attainment of those who have not been employed for five or more years is as expected. The median years of school completed for women who have not worked for five or more years is seven. This compares to a median of eleven years for women who are employed. The median years of school completed for men who have not worked for five or more years is four. This compares to a median of nine years for those men who are usually employed. The relatively low level of education of men who have not worked in the past five years gives some indication of the problems that might be encountered if they tried to enter the labor force. The low level of education also reflects the age distribution of the Papago population in this category.

Papagos in School or Other Training Programs. Persons not looking for work during the past year were asked to give the reasons why they had not engaged in job seeking. One aspect of the question was to determine how many are in school or in training programs preparing for an occupation. Table XXI reveals that most of those in training, but not currently seeking work are in the 16-19 age group, which accounts for nearly 64 percent of those engaged in such activity. It seems likely that many of this group are in high school as opposed to specific job-related training programs. Even though educational training among those not seeking work is concentrated largely in the teen-age group, the proportion of the population so engaged is still small, accounting for only 3.7 percent. On the other hand, some individuals in the older age groups appear to be seeking preparation for employment. Approximately 18 percent of the total in

TABLE XXI
PAPAGOS IN SCHOOL AND MISCELLANEOUS TRAINING PROGRAMS
(By age)

Age	Percent of Population	Percent of Total in Training
16-19	3.7	63.6
20-29	1.1	18.2
30-39	0.3	4.6
40-49	0.0	0.0
50-59	0.3	4.6
60-69	0.5	9.1
70-79	0.0	0.0
80-89	0.0	0.0
TOTAL	5.9	100.1*

N = 22
* Does not sum to 100 percent due to rounding.

school or training were in the 20-29 age group. Persons of this age are normally beyond the high school age and, therefore, are quite likely enrolled in skills training programs. Again, the proportion of the population so engaged is small, representing only about 1 percent.

Younger persons are by no means the only ones engaged in training. About 9 percent of those not seeking jobs but undergoing training were in the 60-69 age category. Yet, the proportion of the population they represent is less than 1 percent. These older individuals may still consider employment a possibility. Some training was also undertaken by persons in their fifties. The age group 50-59 accounts for nearly 5 percent of all in training, but considerably less than 1 percent of total working-age population.

Individuals in their thirties also account for about 5 percent of those taking training of some type. But, once again, this group constitutes less than 1 percent of the total population.

Obviously, some individuals considered to be outside the labor force are in the process of undertaking some training. Some undoubtedly are in pursuit of a high school diploma. Others look beyond the training toward jobs. It is not unreasonable to assert that some of the Papagos are attempting to attach themselves to the labor force.

Those people who were not usually employed during the year previous to the survey but were employed at some time in the past

were asked why they left their last job. As Table XXII shows, the reason most frequently given is "personal, family, or school." "Health" and "retirement or old age" appear to be important reasons. The next four categories in Table XXII refer to labor market conditions being responsible for leaving the last job. These four categories suggest in total that a substantial number of workers left their last employment because of labor market conditions, primarily the lack of employment opportunities. These people could possibly be recruited back into the labor force.

TABLE XXII

REASON FOR LEAVING LAST JOB

Reason	Percent Responding
Personal, family, or school	30.6
Health	19.0
Retirement or old age	9.9
Seasonal job completed	14.9
Slack work or business conditions	4.1
Temporary nonseasonal job completed	6.6
Unsatisfactory work conditions	2.5
Other	12.4
TOTAL	100.0

N = 121

Unemployment

Respondents were asked what they were doing most of the year prior to the survey (Table VII). The concept of unemployment used in this study is best described as that of being usually unemployed during the year prior to the study. It should be noted that an individual may have done some work during the year, but if he was not working most of the year he is counted as unemployed. In addition to not working most of the time, the usually unemployed must also have looked for work during the year prior to the study. Those who were not looking for work because they believed no work was available are not counted as being unemployed in this study, even though they would have been counted as being unemployed by the Bureau of Labor Statistics. The IMRS staff decided to count these people as not part of the labor force. This exclusion from the unemployed category reflects the position that those who spend most of one year

believing that there is no work available in the community and do not look for work, would be best described as being alienated from the labor force. The exclusion from the unemployment category of those who believe that no work is available reflects the fact that the Indian Manpower Resource Study questionnaire focuses on activity over the year previous to the survey whereas the Current Population Survey focuses on the previous week.

Papago unemployment rates are substantially higher than U. S. unemployment rates and unemployment rates for the State of Arizona. For the year previous to the survey, 11 percent of the Papagos replied that they were usually looking for work. The Papago unemployment rate is approximately three times the national and state rates. The Papago rate appears to be especially large in light of the low labor force participation rates characterizing the Papago population. The Papago labor force participation rate is half that of the United States and the unemployment rate is three times as large as that of the United States.

Males constitute the larger proportion of the unemployed on the Papago Reservation; females constitute less than 15 percent of the unemployed whereas males constitute more than 85 percent of the group. At this point attention is focused on males since female cell frequencies were so small in the unemployment category as to leave little or no basis for analysis. Half of the unemployed males are married. The age distribution of unemployed males is presented in Table XXIII. In the IMRS, none of the males less than 20 years of age are by definition unemployed. None of the males looking for work are in this age group. However, males 60 years of age or over responded

TABLE XXIII

AGE DISTRIBUTION OF MALES USUALLY UNEMPLOYED

Age Group	Percent
16-19	0.0
20-29	41.7
30-39	25.0
40-49	8.3
50-59	25.0
60 and over	0.0
TOTAL	100.0

N = 14

that their primary activity in the year previous to the survey was looking for work. Of the unemployed males 66.7 percent are in the age group 20-39, the ages in which males are most likely to be employable. Another concentration of unemployment appears in the 50-59 age group. Unemployment rates are highest for the male Papagos in

TABLE XXIV
UNEMPLOYMENT RATE BY AGE GROUP

Age Group	Percent Males
16-19	0.0
20-29	27.8
30-39	11.1
40-49	7.7
50-59	23.1
60-69	0.0
70 and over	0.0

the age group 20-29 as shown in Table XXIV. It should be noted that it is this same age group that was previously characterized as increasing its labor force participation rate. It appears that those entering the labor force while in their twenties are having difficulty finding employment. Unemployment rates are also quite high for male Papagos in their fifties. The low labor force participation rates for male Papagos 60 years of age or older account for the low unemployment rate in this group.

While education offers a good explanation for the reported labor force participation rates, it does not adequately describe unemployment rates. The median completed years of school of the male unemployed was eight years as compared to a median education level of nine years for employed males. Of the male unemployed, 25 percent had twelve or more years of education.

The previous sections have been directed to those who were usually unemployed; that is, those who spent most of the year previous to the survey looking for work. Another insight into unemployment can be gained by looking at that group that did not work at all during the year prior to the survey. This group includes those who were totally unemployed and those who were not in the labor force.

Of those who did not work at all during the year prior to the survey, 6.5 percent looked for employment at some time. Looking for

work, however, may not have been their primary activity during the year. Included in this group, for example, could be housewives whose primary activity was keeping house, but who looked for a job at some time. Table XXV shows that some of those who looked for work sought part-time only.

TABLE XXV
PERCENTAGE OF THOSE NOT WORKING WHO ARE LOOKING FOR WORK
(By type of work)

Category	Percent
Full-time	3.3
Part-time	1.6
Both	1.6

N = 235

People looking for work contact several sources. Table XXVI shows that the informal procedure of contacting friends and relatives was the most widely used job search method. This is consistent with the behavior of the U. S. labor force in general. The Arizona State Employment Service had been contacted by 25 percent of those in the group who looked for work even though the Service did not have a full-time office on the Papago Reservation until a few months before the survey was conducted. Newspaper want ads are scarcely used at all by the reservation residents. This may be attributed to the relative

TABLE XXVI
SOURCES CONTACTED ABOUT WORK INFORMATION BY THOSE LOOKING FOR WORK IN PREVIOUS YEAR

Source	Percent*
Bureau of Indian Affairs	0.0
Arizona State Employment Service	25.0
Private employment service	12.5
Employer directly	18.8
Friends or relatives	37.5
Placed or answered ads	6.2
Other	31.3

N = 16
* Does not sum to 100 percent due to multiple responses.

isolation of the reservation vis a vis the places were newspapers are published. It also may be attributed to the relatively low level of education of the Papago population. The Bureau of Indian Affairs does not appear to be a source of job information on the Papago Reservation. The explanation for this may lie in the fact that the Bureau may rely on the Arizona State Employment Service to provide employment assistance and is not interested in duplicating services that the State Employment Service is eager to provide. In addition, the failure of the Papagos to contact the BIA when employment is desired may reflect the uneasy relationship between the BIA on the Papago Reservation and the Papago leaders. The Arizona State Employment Service effort will be enlarged since more resources have been committed to the Papago Reservation.

Those Papagos who had looked for a job in the year prior to the survey and who did not work at all during that year were asked why they had difficulty in finding a job. Their reasons are presented in Table XXVII. Most attributed their lack of success to the unavailability of jobs or to their poor preparation for the job market. Age is also a common explanation for inability to obtain work. Health and transportation do not appear to be major problems in this regard. Transportation may, however, be a prime source of difficulty because it is not widely available on the reservation.

Underemployment

Low labor force participation rates and high unemployment rates provide only a partial description of the labor activity of the Papago

TABLE XXVII
REASONS FOR DIFFICULTY IN FINDING A JOB BY THOSE NOT WORKING BUT LOOKING FOR WORK

Reason	Percent*
No jobs available	46.7
Age—too old, too young	26.7
Lack necessary skill or experience	40.0
Lack of necessary education or training	13.3
Health problems, physical disability	0.0
Personal problems—police record, bad debts	13.3
Transportation	6.7

N = 15
* Does not sum to 100 percent due to multiple responses.

population. Taken by itself either one is misleading and even a combination of the two fails to describe manpower utilization since it fails to account for the irregularity of employment. In many cases employment is not on a full-time basis. This section provides an overall view of all of these important factors.

Only 36 percent of Papagos worked in the year previous to the survey. As shown in Table XXVIII, 78.4 percent of all females did

TABLE XXVIII

DISTRIBUTION OF PEOPLE BY MONTHS WORKED AND SEX

Months Worked	Percent of Population	Percent Female	Percent Male
0	63.9	78.4	48.7
1 - 3	13.1	6.7	19.8
4 - 6	5.5	4.1	7.0
7 - 9	5.8	5.7	5.9
10 - 12	11.8	5.2	18.7
TOTAL	100.1*	100.1*	100.1*

N = 194 females; 187 males.
* Does not sum to 100 percent due to rounding.

no work. Males fared slightly better, but 48.7 of all the Papago males 16 years of age or over did no work in the year prior to the survey.

Table XXIX shows that even among those Papagos who did work, year-round employment was the exception rather than the rule. Just

TABLE XXIX

DISTRIBUTION OF THOSE WHO DID SOME WORK BY NUMBER OF MONTHS WORKED

Months Worked	Percent
1 - 3	36.2
4 - 6	15.2
7 - 9	15.9
10 - 12	32.6
TOTAL	99.9*

N = 138
* Does not sum to 100 percent due to rounding.

one-third of respondents worked as much as ten to twelve months. More than half of those who worked, worked for less than six months.

Papago respondents who worked were asked if they usually worked year-round, seasonally, or irregularly. As shown in Table XXX,

TABLE XXX
USUAL TYPE OF EMPLOYMENT

Type of Employment	Percent of Workers
Year-round	46.3
Seasonal	33.6
Irregular	20.2
TOTAL	100.1*

N = 134
* Does not sum to 100 percent due to rounding.

46.3 percent of the working-age Papagos indicated that they work year-round. This suggests that some of those who worked seven to nine months must consider their employment as being year-round employment.

A third of all those who were employed in the year previous to the survey were seasonal workers. The seasonal workers were asked in which season or seasons they usually worked. As shown in Table XXXI, the summer season is by far the most important to the seasonal worker. This partially reflects the importance of agricultural occupations on the Papago Reservation. In addition, students may enter the labor force during the summer months.

Age is related to the number of months employed. For example, a very small percentage of the age group 16-19 years worked more

TABLE XXXI
DISTRIBUTION OF SEASONAL EMPLOYMENT

Season	Percent of Seasonal Workers Employed
Spring	11.1
Winter	16.7
Fall	7.4
Summer	64.8
TOTAL	100.0

N = 54

TABLE XXXII
AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED

Age group	Months Worked 0	1-3	4-6	7-9	10-12
16-19	9.5	28.0	0.0	4.5	0.0
20-29	11.1	22.0	42.9	27.3	20.0
30-39	19.3	22.0	33.3	50.0	26.7
40-49	16.9	12.0	14.3	4.5	20.0
50-59	16.9	14.0	4.8	13.7	17.8
60-69	13.6	2.0	4.8	0.0	8.9
70 and over	12.8	0.0	0.0	0.0	6.7
TOTAL	97.1*	100.0	100.1*	100.0	100.1*
Number in each group	243	50	21	22	45

* Does not sum to 100 percent due to rounding.

than three months. Most of those who worked more than three months are in the 20-39 age bracket. This information is presented in Table XXXII. The sample size was not large enough to estimate each individual cell in the table with a high level of confidence. The table, however, provides a rough estimation of the relationship between the number of months worked and age.

There is also a strong relationship between marital status and the number of months worked. Of all the married females in the survey, 84.1 percent worked not at all (Table XXXIII). More than half of married males worked three months or less. A smaller percentage of those never married did no work at all during the year prior to the

TABLE XXXIII
DISTRIBUTION OF MONTHS WORKED FOR MARRIED PAPAGOS

Months Worked	Percent Female	Percent Male
0	84.1	37.3
1 - 3	3.5	16.2
4 - 6	2.7	8.1
7 - 9	4.4	9.1
10 - 12	5.3	29.3
TOTAL	100.0	100.0

N = 113 females; 99 males.

TABLE XXXIV
DISTRIBUTION OF MONTHS WORKED FOR NEVER-MARRIED PAPAGOS

Months Worked	Percent Female	Percent Male
0	66.7	52.2
1 - 3	12.5	31.3
4 - 6	4.2	6.0
7 - 9	10.4	3.0
10 - 12	6.2	7.5
TOTAL	100.0	100.0

N = 48 females; 67 males.

survey, as shown in Table XXXIV. Male respondents who have never married report doing no work to a lesser extent than do married males. A greater proportion of the marrieds work six months or more than work shorter time periods, although many married workers do not work year-round. Married workers rather than unmarried constitute a larger proportion of Papagos who work ten to twelve months, as may be seen in Table XXXV. Of all males who worked ten to twelve months, 82.9 percent are married. Obligations to provide for dependents appear to stimulate greater vigor in seeking income.

TABLE XXXV
MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

Marital Status	Percent Female	Percent Male
Married	60.0	82.9
Widowed	0.0	2.9
Divorced	0.0	0.0
Separated	10.0	0.0
Never-married	30.0	14.3
TOTAL	100.0	100.1*

N = 10 females; 35 males.
* Does not sum to 100 percent due to rounding.

Hours Worked

Not only is Papago employment characterized by short duration in terms of months worked, but also some work seemingly requires less than 40 hours. Those Papagos usually employed were asked how

TABLE XXXVI
HOURS PER WEEK USUALLY WORKED
BY EMPLOYED PAPAGOS

Hours	Percent of Total
1 - 14	5.8
15 - 29	6.6
30 - 34	3.7
35 - 39	3.7
40	51.1
41 - 48	8.7
49 - 59	10.9
60 or more	9.5
TOTAL	100.0

N = 137

many hours they ordinarily worked at all jobs. Of those usually employed, 19.8 percent worked less than 40 hours, and 16.1 percent worked less than 35 hours, as shown in Table XXXVI. However, slightly over one-half (51.1 percent) worked the standard 40-hour work week. A large proportion were required to work longer than the standard 40-hour week, however. Almost 9 percent worked between 41 and 48 hours, and approximately 11 percent (10.9) were on the job between 49-59 hours. Those who worked less than 35 hours were asked the reason, and responses are recorded in Table XXXVII. Of those responding, 30 percent gave slack work or the unavailability of full-time employment as reasons for working 35 hours or less. Still another 9.5 percent worked 60 hours or more per week when working. Generally, it appears that long hours are required of those Papagos who usually worked. Approximately 80 percent of working-age Papagos work 40 hours or more per week. It is possible that such a condition reflects the heavy concentration in agricultural and service-related industries.

Industry and Occupational Experiences

Industry Experiences

The distribution of Papagos into industries is limited. Table XXXVIII reveals the precise industries in which the on-reservation

TABLE XXXVII
REASON FOR WORKING 35 HOURS OR LESS

Reason	Percent of Those Working 35 Hours or Less
Slack work	23.8
Material shortage	0.0
Plant or machine repair	0.0
Could only find part-time work	4.8
Labor dispute	0.0
Bad weather	0.0
Own illness	0.0
Too busy with housework, school, business, personal, etc.	28.6
Did not want full-time work	4.8
Full-time work under 35 hours	23.8
Other reason	14.3
TOTAL	101.1*

N = 27

* Does not sum to 100 percent due to rounding.

tribesmen have had experience over the past five years, including current employment. The industries include both on- and off-reservation employment. The table is based on 189 responses, since 193 had not been engaged in gainful employment during the past five years or did not supply the information requested. Ranked in order of numbers of workers, the Papago is concentrated in three broad industry categories: government, agriculture, and services.

Government provides one-third of all employment opportunities for the Papago. The federal government is by far the most important employer among the three governmental levels. This is occasioned by the sheer fact that the Bureau of Indian Affairs and the Indian Health Service have relatively large operations on the reservation. Some employment is provided at both the state and local government level, but they provide only about 20 percent of that provided by federal government.

Approximately, 30 percent of Papagos depend on agriculture for a livelihood. Nearly all the respondents engaged in agricultural production are employed at tasks such as cattle herding, work on cotton farms, and work in citrus groves. However, it should be observed that

it is in these categories that opportunities for employment are declining. New techniques of harvesting most crops, including citrus, may well eliminate most of the sources of seasonal work, which has been a large factor in providing Papago income.

The services industry category accounts for 23 percent of Papago employment experiences and it should be noted that domestic services account for over one-half of this category. Janitors and cooks in educational institutions also account for a significant number of services employees.

All the other industry categories provide some employment, but entry is limited. Mining employs only about 2 percent of the working-age population, as does manufacturing. A somewhat higher percentage

TABLE XXXVIII

PAPAGO EMPLOYMENT BY INDUSTRY CLASS

(Number and percent)

Code	Industry	Number		Percent of Total
	AGRICULTURE, FORESTRY, AND FISHERIES			
01	Agricultural production	54		
07	Agricultural services and hunting and trapping	2		
08	Forestry	1		
	Subtotal		57	30.2
	MINING			
10	Metal mining	3		
	Subtotal		3	1.6
	CONTRACT CONSTRUCTION			
15	Building construction—general contractors	6		
16	Construction other than building—general contractors	4		
17	Construction—special trade contractors	1		
	Subtotal		11	5.8
	MANUFACTURING			
20	Food and kindred products	1		
36	Electrical machinery, equipment, and supplies	3		
	Subtotal		4	2.1
	WHOLESALE AND RETAIL TRADE			
53	Retail trade—general merchandise	2		
54	Food stores	1		
58	Eating and drinking places	4		
	Subtotal		7	3.7

TABLE XXXVIII (continued)

Code	Industry		Number	Percent of Total
	SERVICES			
73	Miscellaneous business services		1	
75	Auto repair, services and garages		1	
80	Medical and other health services		5	
82	Educational services		9	
86	Nonprofit membership organizations		3	
88	Private households		24	
89	Miscellaneous services		1	
		Subtotal	44	23.3
	GOVERNMENT			
91	Federal government		52	
92	State government		5	
93	Local government		6	
		Subtotal	63	33.3
TOTAL			189	100.0

N = 189

of Papagos are employed in the contract construction category (5.8), but this category includes some self-employment. Wholesale and retail trade accounts for a source of experience in employment also since at some time in the past 3.7 percent have worked in establishments dealing with general merchandise, food, or drinks.

It is obvious that the range of Papago experience in all industry classes is limited. Most experience appears limited to employment that can best be regarded as entry level work. For this reason, there is a greater opportunity to obtain work when the economy in general experiences high levels of aggregate demand. Further information about Papago work experience is obtained by a review of occupational experiences within the industry categories mentioned.

Occupational Experiences

Occupations in which the Papago have worked during the five years prior to the survey were revealed by 189 respondents. As was the case in the industry classification section, 193 respondents had not worked during the previous five-year period. Table XXXIX reveals

TABLE XXXIX
PAPAGO EMPLOYMENT BY OCCUPATIONAL TITLE
(Number and percent)

Code	Description	Number		Percent of Total
	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS			
00, 01	Occupations in architecture and engineering	1		
07	Occupations in medicine and health	1		
09	Occupations in education	1		
16	Occupations in administrative specialization	4		
18	Managers and officials, not elsewhere classified	5		
19	Miscellaneous professional, technical, and managerial occupations	3		
	Subtotal		15	7.9
	CLERICAL AND SALES OCCUPATIONS			
20	Stenography, typing, filing, and related occupations	4		
21	Computing and account–recording occupations	2		
24	Miscellaneous clerical occupations	1		
29	Merchandising occupations, except salesmen	1		
	Subtotal		8	4.2
	SERVICE OCCUPATIONS			
30	Domestic service occupations	22		
31	Food and beverage preparation and service	11		
32	Lodging and related service occupations	1		
35	Miscellaneous personal service occupations	8		
37	Protective service occupations	4		
38	Building and related service occupations	6		
	Subtotal		52	27.5
	FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS			
40	Plant farming occupations	14		
41	Animal farming occupations	12		
42	Miscellaneous farming and related occupations	35		
44	Forestry occupations	2		
	Subtotal		63	33.3
	PROCESSING OCCUPATIONS			
52	Processing of food, tobacco, and related products	2		
57	Processing of stone, clay, glass, and related products	1		
	Subtotal		3	1.6

TABLE XXXIX (continued)

Code	Description	Number		Percent of Total
	MACHINE TRADE OCCUPATIONS			
62, 63	Mechanics and machine repairmen	6		
66	Wood machining operations	1		
	Subtotal		7	3.7
	BENCH WORK OCCUPATIONS			
72	Occupations in assembly and repair of electrical equipment	3		
	Subtotal		3	1.6
	STRUCTURAL WORK OCCUPATIONS			
82	Electrical assembly, installing, and repair occupations	1		
84	Painting, plastering, waterproofing, cementing, and related occupations	3		
86	Construction occupations, not elsewhere classified	12		
89	Structural work occupations, not elsewhere classified	3		
	Subtotal		19	10.1
	MISCELLANEOUS OCCUPATIONS			
90	Motor freight occupations	1		
91	Transportation occupations, not elsewhere classified	7		
92	Packaging and materials handling occupations	3		
93	Extraction of minerals	7		
95	Occupations in production and distribution of utilities	1		
	Subtotal		19	10.1
TOTAL			189	100.0

N = 189

the occupations worked at recently enough that it is possible to assume that any skill required to perform similar work could be re-learned with minimum cost to employers.

One-third of the Papagos have had relatively recent experience in agricultural related occupations. Most of the experience gained is in the general helper category known as agricultural day laborers. That is, most work experience has been at farm jobs that are miscellaneous in nature. Workers fill in and perform any general tasks assigned.

Some are experienced in the plant farming category such as vegetable growing. Still others have experience herding cattle, horses, and sheep. Fire wardens and tree pruners are also combined in the general category relating to forestry experience rather than the pursuits attributed to agriculture.

In the services industry, domestic services and food and beverage preparation are the occupations Papagos are most likely to perform. Nearly 28 percent of respondents revealed a range of service experiences other than domestic and food preparation. These range from work on the tribal police force to work in hotels and motels.

Ten percent have experience in structural work occupations. Most are concentrated in the general contract category including iron working, carpentry, painting, and cement work. A few have experience in electrical assembly, a category largely reflecting the electronics assembly work located on the reservation.

Another 10 percent have experience dealing with motor freight and transportation generally. In addition, mineral extraction and work for utility companies are also included.

Some of the respondents have had experience in professional, technical and managerial occupations. These range from occupations as practical nurses and laboratory technicians in hospitals to social welfare work. Managerial experience is also included in the 8 percent falling within the broad occupational category. As one example of the range of experience, an elementary teacher is included in the total.

Approximately 4 percent of respondents have worked in clerical and sales occupations. The normal office occupations, stenography, typing, and filing predominate; few attain occupations higher than the normal office responsibilities that accompany secretarial tasks.

In brief, Papagos have had limited job-related experiences. The majority can be categorized as being at the labor market entry level. A large number of jobs are seasonal in nature and many may not even be steady. It has been suggested that the Papago is ill-equipped to compete in a loose labor market or one marked with substantial unemployment. Most Papagos may receive work experiences during high level economic activity. In periods of relatively low aggregate demand for goods and services, it is likely that the Papago is at a disadvantage in the labor market. Thus, despite some occupational experiences, he is forced back toward agricultural types of work.

Location of Present Job. Papago respondents who usually worked were asked to reveal if their present job is located on or off the reser-

vation. Nearly 70 percent reported on-reservation employment and about one-third of the jobs are agricutlurally related. Only 30.2 percent of respondents travel off the reservation to their employment. Few opportunities to work seem to be available on the reservation but such tasks as are performed are predominantly on-reservation; not much work is done off the reservation.

Source of Learning Present Job. Individuals usually working were asked to report where they had learned to perform their present job. Table XL reveals that 54 percent of respondents who are usually working learned to perform their job by receiving instruction from employers. This is as expected since most work is usually peculiar to particular employers even if it is a common labor agricultural task as revealed previously.

Only 1 percent identified training received while in the Armed Forces as the source of learning their present job. It should be recognized that there may be some carry-over from tasks performed while in uniform to similar civilian pursuits. Roughly 6 percent responded that government sponsored training programs provided the basis for performance on the job. The types of training provided in such programs are varied, but seemingly provide trainees with the necessary background to obtain jobs related to instruction received.

Formal education was the source of learning to perform their jobs for 7.2 percent of respondents. It seems likely that much of this is related to office skills since most secondary education is general and not specifically related to any given job. As an alternative, the formal source may only have been the basis of receiving the job in the first place with specific instruction provided after employment.

The second largest source of training for job performance was listed as in the "other" category by 32 percent of respondents who

TABLE XL

SOURCE OF TRAINING TO PERFORM JOB

Source	Percent
Taught by employer	53.6
Government training program	6.4
Armed services	0.8
Formal education	7.2
Other	32.0
TOTAL	100.0

N = 125

work. This category includes such sources as self-taught and instruction from friends and relatives.

One percent of the 382 Papago respondents hold union cards. For a few, union training programs were instrumental in teaching job skills. Indian union membership, however, is not large. This is reflected in the types of jobs normally filled by Papagos, which are not generally those that have received union organizational attention in the past. As a general rule, it can be asserted that Indians have not been exposed to union apprenticeship programs. A part of this is due to the general lack of educational attainment to qualify for such instruction. Some of the blame can, undoubtedly, be cast at the lack of information available to Papago male high school graduates. Unions have not solicited trainees from minority race members. Still another aspect might be the nature of the local market itself, which is generally characterized as one containing an excessive supply of unskilled labor. Indians on the Papago Reservation are poorly located geographically in relation to areas where there may be demand for unskilled services. Even when there is an increased demand for skills such as they possess, they generally have not been informed of job availability. This geographic isolation and general lack of labor market participation are reflected in the low occurrence of union membership.

Skills Training Without Subsequent Job Experience. Respondents were asked to reveal any job oriented training they may have received, but had not been able to utilize on the job. Nearly 8 percent of 369 responses indicated the existence of latent skills among the population. Further questioning identified training for occupations as nurses, welders, carpenters, photographic equipment repairmen, and general electronics technicians. It may well be that some individuals could obtain work in other areas, but an unwillingness to move to places where firms are located renders the possession of such skills useless. Latent skills among the population are not abundant, and potential employers who might locate on the reservation would face a considerable training task.

Sources of Income

Insights into incentives of the Papago to participate in the labor force or alternatively to remain on the reservation can be gained by reviewing the source and amount of earned and unearned income of

respondents. It is also desirable to break down the income data by age, sex, and educational attainment level of respondents to determine the influence education has had on the economic well-being of the population. Analysis is also made of individually-earned income relative to family-earned income to estimate the extent of income sharing and to assess the economic well-being of the Papagos. This section of the survey encountered the problems inherent in asking persons to discuss their financial status, and to respond on the basis of recall without the aid of records.

Earned and Unearned Income

Respondents were asked to state all sources and amounts of both individual and family income and their responses are presented in Table XLI.

Family Income. It is significant that 92.2 percent of individuals of working age received less than $3,000 annual income. Furthermore, despite the obvious income sharing among family members, total family income reported shows that 84.6 percent subsist on less than $3,000 per year. The 84.6 percent refers to unadjusted family income. This data offers a possible reporting bias from the greater probability that several members from large families would have been selected in the sample rather than several members from smaller families. The un-

TABLE XLI
INDIVIDUAL AND FAMILY INCOME

Amount (Dollars)	Individual (Percent)	Family Unadjusted (Percent)	Family Adjusted (Percent)
0	27.7		
1 - 499	33.1	38.0	38.3
500 - 999	17.7	22.6	22.5
1,000 - 1,999	9.8	15.4	16.8
2,000 - 2,999	3.9	8.6	8.1
3,000 - 4,999	3.6	8.6	8.1
5,000 - 9,999	3.9	5.7	5.3
10,000 - and over	0.3	1.1	1.1
TOTAL	100.0	100.0	100.2*

N = 357 individual; 350 unadjusted family; 285 adjusted family.
* Does not sum to 100 percent due to rounding.

adjusted family income does not correct for the possible bias. The adjusted family income portion of Table XLI eliminates multiple family members and reports on the basis of only one member per family. Actually, there is little difference between the adjusted and unadjusted family incomes and reference is therefore directed to the unadjusted family income data.

The median number of children per Papago family is four. It appears, then, that a high percentage of the on-reservation population lives in poverty. About 61 percent of individuals reported an annual income of less than $500 and 28 percent reported no income. However, 38 percent of families have incomes in the less than $500 per year category. Data do not reveal how many working family members were required to obtain even that amount. Apparently several per family were active or had sources of unearned income. Individuals earning $3,000 per year and above account for 7.8 percent of the working-age population, but 15.4 percent of families are in the same category. Obviously, there is substantial sharing of income on the Papago reservation since family income is somewhat higher in every category than individual income. All of the income reported was not earned, but included substantial transfer payments to produce the income levels shown in Table XLI.

Non-Money Income The IMRS attempted to determine the extent that barter is practiced by the Papago Indian. The question was asked of respondents: "Did you receive any non-money income last year?" In addition to suggested responses, respondents were able to indicate other sources. The amount and sources of non-money income are reported in Table XLII.

Some non-money was earned by nearly 10 percent of the Papago respondents. Even so, the vast majority of the population is required to seek a living from sources other than homegrown and consumed

TABLE XLII
NON-MONEY INCOME SOURCES

Source	Percent
Homegrown and consumed agricultural products	4.8
Homemade clothing	3.2
Goods exchanged for other goods	1.3
Other barter sources	0.5

N = 377

agricultural products because of the inadequacy of climate and water necessary for gardening or the raising of livestock. Homemade clothing is an endeavor of approximately 4 percent in supplementing individual income. Barter is not widespread, possibly because of a lack of different things to exchange.

Those who were able to generate additional income on a non-monetary basis did not succeed at all well. Table XLIII reports an estimate of the monetary equivalent of the non-money source as reported by respondents.

TABLE XLIII

MONETARY EQUIVALENT OF NON-MONEY INCOME

Income (Dollars)	Percent
0	92.0
1 - 499	7.3
500 - 999	0.3
1,000 or over	0.5
TOTAL	100.1*

N = 374

* Does not sum to 100 percent due to rounding.

Table XLIII reveals that 92 percent of respondents have not generated non-money income on the basis of activity reported in Table XLII. Less than 1 percent reported $1,000 or over on the basis of gardening, sewing, trading or other actions helpful in advancing economic well being. It can be asserted that overall economic welfare of the on-reservation Papago is poor relative to the general U. S. population. Median U. S. income in 1966 was $7,436.[5] Median Negro family income in 1967 was $4,939.[6] Median family income for the Papago can be estimated from Table XLI to fall within the $500-999 range with the probability that it is closer to $1,000 than to $500. And the smaller income must go for the support of more family members on the reservation than for the U. S. family in general.

Sources of Individual Income

To determine the sources of both earned and unearned income of individuals, the question was asked: "What were the sources of income received by you in the last twelve months?" Several suggested

categories enabled the individual to respond on the basis of yes or no; Table XLIV illustrates the reported sources mentioned on that basis.

It can be observed that 28.6 percent of the working-age population reported "earnings from a trade" as a source of income. This category includes such trades as nurse, automobile mechanic, electri-

TABLE XLIV
SOURCES OF INDIVIDUAL INCOME

Source	Percent
Gifts from children, relatives, or churches	2.7
Sale of handicrafts	13.9
Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership	4.8
Earnings from a farm, ranch or other business	4.8
Earnings from a trade	28.6
Pensions	4.3
Assistance payments from Bureau of Indian Affairs	11.5
Assistance payments from other public or private sources	4.6
Interest or dividends on personal loans and investments	1.1
Income from royalties, leases, timber sales, annuities	2.7
Judgment or settlement funds	0.3
Sale of property	2.9
Veterans payments	1.3
Social Security	8.3
Unemployment insurance	0.0
None	26.7
Other	2.9

N = 374
* Does not sum to 100 percent because of multiple income sources.

cal repairman, and carpenter. In addition, it includes unskilled work performed at hourly wage rates. The total category represents by far the most important source of income for the reservation residents.

The sale of handicrafts is also an important activity for the Papago. Basket weaving is the primary source of all handicraft work undertaken. Nearly 14 percent of the population receives income from this ancient art. Next in importance is the Bureau of Indian

Affairs with 11.5 percent reporting income from this source. Social Security ranked fourth in importance; the reason for this is obvious since the manpower resource study includes persons over 62 years of age. At age 62 some individuals may qualify for Social Security benefits. It is recognized that aid to dependent children is also a factor. Almost 10 percent of the respondents earned income from some form of self-employment. The self-employed sources were broken into two categories (farm and nonfarm), but the distinction between them was sufficient to eliminate any possible duplication in responses.

It is important to observe that unemployment compensation is relatively unimportant for the Papago. This may partly reflect the inability of the population to find transportation to distant offices to apply for such payments, particularly on a regular weekly basis. Also, it may reflect the lack of knowledge regarding the procedure to qualify for benefits. What may be called for here is an effort to communicate the qualifications for such benefits.

Especially revealing is the large percentage of responses that no income had been received in the previous year. More than one-fourth of the working-age respondents reported they had received no income in 1967. It is expected that the need for labor force participation by all family members is high if the level of family income is small relative to other families in surrounding areas.

The IMRS survey also observed the relative income contributions made by males and females. About 66 percent of the 194 females in the survey reported some source of income in the prior year. Many females reported more than one source of income. In total, there are 239 sources of income listed by the 129 females with income, for an average of 1.8 income sources per female with income. The percentage of males having at least one source of income is greater than for females. About 81 percent of the 187 males in the survey reported income from one or more sources. The relative accessibility of the sexes to income sources reflects the fact that the male labor force participation rate is more than twice that for women. The survey results suggest that while a higher proportion of men have at least one source of income, there are fewer income sources per male than there are for female. Females with income received income from 1.8 sources. The 152 males with income in the survey received income from 208 different sources for an average of 1.4 sources of income per male with income.

Those With No Income

Of 99 Papago respondents reporting no income, 65 are women and 34 are men. A large percentage (71) of the women who reported no income listing keeping house as their primary activity during the year previous to the survey. Another 9.2 percent responded that they were unable to work.

The age distribution of females who reported no source of income is presented in Table XLV. The table indicates that there is a heavy concentration of women with no income in the 20-39 age group. This suggests that the women in that age bracket are concentrating on child rearing and depending on other members of the family for support.

TABLE XLV
AGE DISTRIBUTION OF FEMALES WITH NO INCOME

Age Group	Percent of Females with No Income	Percent of All Females in Age Group
16-19	7.7	7.7
20-29	20.0	16.0
30-39	30.8	27.3
40-49	16.9	19.1
50-59	16.9	15.0
60-69	4.6	8.3
70 and over	3.1	6.7
TOTAL	100.0	100.1*

N = 65
* Does not sum to 100 percent due to rounding.

Table XLV also reveals that the percentage of women 60 years of age or over who received no income is low when compared to the age distribution of all Papago women. The reason that very few older women reported that they had no income is clear. Half of the women 60 years or older who were interviewed responded that they had income from either pensions, assistance, or Social Security. Another 28.6 percent of the females in this age group had earned income. The low percentage of women with no income in the 60 and over group is indicative of the high proportion of those with no earned income that receive unearned income.

Of the Papago males that listed no sources of income, 29 percent listed going to school as their primary activity in the year previous

to the survey. Table XLVI shows that the largest concentration of Papago males with no income is in the 16-19 age group. A large part of the "no sources of income" response can be attributed to youthfulness. Those males in the 16-19 age group have not yet entered the

TABLE XLVI
AGE DISTRIBUTION OF MALES WITH NO INCOME

Age Group	Percent of All Males with No Income	Percent of All Males in Age Group
16-19	28.6	12.3
20-29	14.3	16.6
30-39	11.4	18.7
40-49	11.4	12.3
50-59	20.0	16.6
60-69	11.4	12.3
70 and over	2.9	11.2
TOTAL	100.0	100.0

N = 34

labor force and rely on other family members for their support. More than 20 percent of those males who had no income reported that they were unable to work during the year prior to the survey. The males who were unable to work must have relied on other family members for support.

Earnings from a Trade

The most frequently mentioned source of income was earnings from a trade, reported by 28.6 percent of the respondents. This income source includes earnings from both skilled and unskilled occupations. The percentage reporting income earned in connection with a trade is slightly below the Papago labor force participation rate of 30.3 percent. The labor force question confirms the reliability of the income question and vice versa. Those not in the labor force plus those who were usually unemployed constitute approximately 28 percent of the population.

Thirty-seven percent of men and 19 percent of women reported income from a trade as shown in Table XLVII. As expected, the 20-39 age group are most likely to have earnings from a trade. As Papagos get older their access to this type of earning decreases.

TABLE XLVII
DISTRIBUTION OF EARNINGS FROM A TRADE
(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	16.2	11.4
20-29	32.4	27.1
30-39	32.4	27.1
40-49	10.8	15.7
50-59	5.4	10.0
60-69	2.7	4.3
70 and over	0.0	4.3
TOTAL	99.9*	99.9*

N = 37 females; 70 males.
* Does not sum to 100 percent due to rounding.

Self-employment and Ownership Income

The respondents to the questionnaire were asked if they had any income from self-employment activity, and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with the ownership of an economic asset. For example, a person could have a proprietary interest in a business and derive income from that business but take no part in the operation of the business. Such a person does not receive self-employed income but may receive income from the business. It is not clear whether respondents were able to make the distinction. Nearly 5 percent reported self-employment income and still another 5 percent reported income from the ownership of a business. Many people responded that they had one source of income but not the other. Almost all of the respondents listing these two sources of income were men. Only two women responded that they had self-employment income, and two women responded that they had income from the ownership of a business. It should be noted that women were asked to differentiate between these two types of income as well as income from the sale of handicrafts. The age distribution of men receiving income from these sources is presented in Table XLVIII. No one in the 16-19 age group has income from either of these sources, and the 50-59 age group had the highest percentage of any group.

TABLE XLVIII

SELF-EMPLOYMENT INCOME AND INCOME FROM OWNERSHIP

Age Group	Distribution of Males with Earnings from Ownership	Distribution of Males with Self-employment Income
16-19	0.0	0.0
20-29	13.3	18.8
30-39	26.7	6.3
40-49	6.7	6.3
50-59	26.7	43.8
60-69	6.7	12.5
70 'and over	20.3	12.5
TOTAL	100.4*	100.2*

N = 15 ownership; 16 self-employment.

* Does not sum to 100 percent due to rounding.

Income from Handicrafts

Handicrafts appear to be an important source of income on the Papago reservation. Basket making is the major handicraft. Approximately 14 percent of respondents listed handicrafts as a source of income, making it the second most frequently mentioned source of income. Of those who listed this source of income, 92.3 percent were

TABLE XLIX

DISTRIBUTION OF INCOME FROM HANDICRAFTS

(By sex and age)

Age Group	Percent Females	Percent Males
16-19	2.1	50.0
20-29	6.3	0.0
30-39	27.1	0.0
40-49	35.4	0.0
50-59	18.8	25.0
60-69	6.3	25.0
70 and over	4.2	0.0
TOTAL	100.2*	100.0

N = 48 females; 4 males.

* Does not sum to 100 percent due to rounding.

women. As indicated in Table XLIX, these women are not in the younger age groups. More than half of the women engaged in this activity are fifty years of age or older. This is an important source of income to Papago women with 37 percent of all those reporting income listing this as a source.

Assistance Payments

The third most frequently mentioned source of income was assistance payments. The Bureau of Indian Affairs provides some assistance to Papagos in need. The assistance may have been in the form of money or goods. Other sources of assistance to the Papagos are the State of Arizona Aid to Dependent Children and other forms of welfare payments. Assistance from sources other than the BIA was provided to about 5 percent of the survey population.

Ten percent of respondents reported assistance income from the BIA. As indicated in Table L and LI, assistance payments to men were directed primarily to the 40 and over age group. More than 93 percent of BIA assistance was given to this group. No man under

TABLE L
DISTRIBUTION OF INCOME FROM BIA ASSISTANCE
(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	4.4	0.0
20-29	0.0	6.7
30-39	21.7	0.0
40-49	30.4	13.3
50-59	17.4	40.0
60-69	8.7	13.3
70 and over	17.4	26.7
TOTAL	100.0	100.0

N = 23 females; 15 males.

40 years of age responded that he had income from public sources or private sources other than the BIA. Women receiving unearned income were dispersed over all age groups. This reflects the broader range of circumstances that place women in a position necessitating assistance payments.

TABLE LI
DISTRIBUTION OF INCOME FROM PUBLIC
AND PRIVATE SOURCES OTHER THAN BIA
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	9.1	0.0
30-39	18.2	0.0
40-49	18.2	20.0
50-59	36.4	20.0
60-69	9.1	40.0
70 and over	9.1	20.0
TOTAL	100.1*	100.0

N = 11 females; 5 males.
* Does not sum to 100 percent due to rounding.

Income from Social Security

Social Security is an important source of income to the Papagos. Of the families in the survey, 8.3 percent responded that they had income from this source. The age and sex charactertistics of Papagos receiving Social Security are shown in Table LII. Male recipients are

TABLE LII
DISTRIBUTION OF INCOME FROM SOCIAL SECURITY
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	13.3	0.0
20-29	0.0	6.3
30-39	13.3	0.0
40-49	26.7	6.3
50-59	13.3	6.3
60-69	20.0	50.0
70 and over	13.3	31.3
TOTAL	99.9*	100.2*

N = 15 females; 16 males.
* Does not sum to 100 percent due to rounding.

concentrated in the 60 years of age and over group. This suggests that payments to males are primarily related to retirement. Female recipients are not concentrated in any single age group suggesting that the reason for payments to females is other than retirement.

A very small portion of Papagos 60 years of age or older receive Social Security payments. Only 24.7 percent of the people in this age group receive such payments. Table LIII reports the frequency of payments in other age groups. A greater percentage of the 60 years and older male Papagos receive Social Security payments than do females in the same age group.

TABLE LIII

PERCENTAGE OF PAPAGOS RECEIVING SOCIAL SECURITY PAYMENTS

Age Group	Percent Females in Each Age Group	Percent Males in Each Age Group
All age groups	7.7	8.6
60 and over	17.2	29.5
60-69	18.8	34.8
70 and over	15.4	23.8

N = 15 females; 16 males.

Veterans Payments and Pensions

The survey revealed that 4.3 percent of Papagos received pensions and another 1.3 percent received veteran benefits. Of Papagos receiving veterans benefits, most were women. All of the females receiving benefits were under 50 years of age. Benefits received probably coincide with husbands making careers in the armed forces. Of the sixteen Papagos receiving pensions, five were women. Four of these five women were less than 40 years of age. These age distributions suggest that most pensions made to women are related to the death or disability of the spouse. Of the eleven men receiving pensions, only two were less than 60 years of age. Pension payments to men appear to be closely related to retirement.

Unemployment Insurance

Not one Papago listed unemployment insurance as a source of income. This is surprising since Papago unemployment rates are approximately three times the national and state averages. This partly

reflects the occupational and industrial distribution of Papago employment. The heavy concentration of Papago employment in agricultural and service industries contributes to the low proportion of the total employment being covered by the unemployment insurance system. It may also be possible that the remoteness of the Papago reservation discourages unemployment insurance claim filing. In any case, the fact that not one person in a sample of 374 Papagos received unemployment insurance, is indicative of the extent to which the Papagos are nonparticipants in the mainstream of U. S. economic life.

Other Sources of Income

Six additional income categories were available on the Indian Manpower Resource Study questionnaire. Income from the sale of property accrued to eleven Papagos or about 3 percent of the working-age population. None of those that received this type of income were less than 30 years of age, reflecting the low asset base of the young in the Papago community. Ten Papagos or 3 percent of respondents received income from royalties, leases, timber sales, or annuities. Of these income recipients, eight are women. By and large, the young people also appear to be excluded from this type of income. Only one person under 40 years of age received income from these sources.

Income in the form of gifts from children, relatives, or churches was reported by 3 percent of the Papago working-age population. The recipients were divided equally between males and females. While there does not appear to be any systematic relationship between age and female access to this source of income, there is a concentration of male recipients in the under 30 age group.

In addition to the above categories, one woman reported income from a settlement or judgment. Two men and two women reported income from interest or dividends. Eleven Papagos reported that they had income from sources other than those listed in the questionnaire.

Most Frequently Mentioned Sources

One indication of the importance of an income source to a particular age group is the frequency with which the age group mentions the income source. The most frequently mentioned income source for female age groups is presented in Table LIV. Earnings from a trade constitutes the most important source of income to the younger female

TABLE LIV
MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES
(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Females in Age Group Receiving Source*
16-19	Earnings from a trade	40.0
20-29	Earnings from a trade	38.7
30-39	Sale of handicrafts	24.5
	Earnings from a trade	24.5
40-49	Sale of handicrafts	46.0
50-59	Sale of handicrafts	31.0
60 and over	BIA assistance payments	20.7
	Social Security benefits	17.2
	Sale of handicrafts	17.2

* Does not sum to 100 percent due to multiple responses.

age groups. The Papago females in the middle age groups most frequently mentioned handicrafts as a source of income. The 60 years of age and over group has several important income sources. In addition to handicrafts, assistance payments and Social Security are most frequently mentioned.

Earnings from a trade is an important source of income for Papago male age groups. This is consistent with the relatively greater male

TABLE LV
MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES
(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Males in Age Group Receiving Source*
16-19	Earnings from a trade	34.8
20-29	Earnings from a trade	61.3
30-30	Earnings from a trade	54.3
40-49	Earnings from a trade	47.8
50-59	Self-employed income	18.9
	Earnings from a trade	18.9
	BIA assistance payments	16.2
60 and over	Social Security benefits	29.6
	Earnings from a trade	20.5

* Does not sum to 100 percent due to multiple responses.

participation in the labor force. For the 16-49 age groups, earnings from a trade is mentioned far more frequently than any other source of income. As shown in Table LV, self-employed income is frequently mentioned, as are assistance payments, by the 50-59 age group. Social Security is the most frequently mentioned source for the 60 and over group.

Summary of Income Sources

Earnings from a trade appear to be the most important source of income to the Papagos. The older the population group, the less it relies on earnings from a trade. Handicraft income becomes an important source of income to women. In addition, females receive a large percentage of the assistance, pensions, and Social Security. These sources are important to each of the female age groups. Papago females do not have substantial earnings from businesses.

Male Papagos rely more on earnings from a trade than do female Papagos. Males generally have fewer sources of income. Males in the middle age groups receive substantial income from the operation or ownership of businesses. Assistance payments and Social Security are not important sources of income except to the older age groups.

Income by Education and Sex

Not only is it important to report information on occupation, labor force participation, sources of income, and family characteristics, but it is also important to break down income data on the basis of education and sex. Among other reasons for their importance, such data provide insights into motivations to obtain education for job purposes. The receipt of income by sex and educational attainment is reported in Table LVI. Reporting is on the basis of 187 male and 194 female responses.

It is clear that higher educational attainment has had some effect on the ability of a few to command a higher level of income, but the effect is not widespread. The most obvious aspect of Table LVI is that about 81 percent of males and 91 percent of females were included in income categories of less than $3,000 per year. Men receiving no income account for 18 percent of all males. With few exceptions, males without income ranged from no formal education through high

TABLE LVI

INCOME BY EDUCATION AND SEX

(Percent)

Education	Sex	Income $ 0	1-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 +	Info. Not Avail.	TOTAL
None	M	1.1	2.7	1.1	0.0	0.5	0.0	0.0	0.0	0.5	5.9
	F	0.5	4.1	2.1	0.5	0.5	0.0	0.0	0.0	1.6	9.3
1	M	2.1	4.3	2.1	0.5	0.0	0.0	0.0	0.0	1.1	10.1
	F	1.5	3.6	1.0	0.5	0.0	0.0	0.0	0.0	0.0	6.6
2	M	0.5	1.6	2.1	0.5	0.0	0.0	0.0	0.0	0.0	4.7
	F	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.0
3	M	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	F	1.0	3.6	0.5	0.5	0.0	0.0	0.0	0.0	0.5	6.1
4	M	0.5	2.7	1.6	0.5	1.6	0.0	0.0	0.0	0.0	6.9
	F	0.5	1.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	3.5
5	M	1.1	0.5	1.1	0.5	0.0	0.5	0.0	0.0	0.0	3.7
	F	2.6	3.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	7.8
6	M	0.0	0.5	1.1	1.1	0.5	0.0	0.5	0.0	0.0	3.7
	F	1.0	2.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	4.6
7	M	1.1	2.7	1.1	0.5	0.0	1.1	0.0	0.0	0.0	6.5
	F	6.2	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	8.2
8	M	2.1	2.1	1.1	1.1	0.0	0.5	0.5	0.0	1.6	9.0
	F	5.7	2.1	2.1	0.0	0.0	0.0	0.5	0.0	1.6	12.0
9	M	4.3	1.6	3.2	1.1	0.0	1.1	0.5	0.0	1.1	12.9
	F	4.1	2.6	1.0	0.5	0.0	0.0	0.0	0.0	0.0	8.2
10	M	2.1	2.2	0.5	0.0	0.5	0.5	0.5	0.0	0.5	6.8
	F	2.6	2.6	1.0	1.0	0.0	0.0	0.0	0.0	0.5	7.7
11	M	0.0	2.7	1.6	0.5	0.0	0.0	0.5	0.0	0.0	5.3
	F	1.5	1.0	0.0	0.5	1.0	0.5	0.0	0.0	0.0	4.5
12	M	1.1	3.2	1.6	2.1	1.1	2.7	2.7	0.0	1.1	15.6
	F	3.1	1.5	1.5	3.1	0.0	0.0	0.5	0.0	1.0	10.7
13	M	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0
	F	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	1.0
14	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	1.0
15	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Info. not available	M	2.1	1.1	0.5	0.0	0.0	0.0	0.0	0.5	1.1	5.3
	F	1.5	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.5	5.0
TOTAL	M	18.1	29.5	19.8	8.9	4.2	6.4	5.2	0.5	7.0	99.6*
	F	33.3	31.8	13.3	9.1	3.0	0.5	2.0	0.0	6.2	99.2*

N = 187 males; 194 females.

* Does not sum to 100 percent due to rounding.

school graduates. The greatest concentration of men by education in the no income category is in grades eight through ten.

Women do not fare as well as do men as shown by the fact that a much higher percentage (33.3) were without income. The greatest concentration of women by education is between grade levels seven and nine. However, those with high school educations were also well represented in the no income category (3.1 percent).

Approximately 5 percent of males are high school graduates with incomes of $3,000-9,999 annually as compared to less than 1 percent of women. It is clear that an individual income of over $2,000 per year is not common on the Papago Reservation, irrespective of the level of education completed. It appears that men with high school educations do much better than others, and this may largely reflect greater aggressiveness on their part in seeking jobs on a continuous basis. The superior performance of men over women with diplomas either reflects the lack of opportunities available to females or their concentration on family duties.

Observe that females with some post high school training fare better than men in that 0.5 percent of women were able to break into the $5,000-9,999 income category. A second year of college was completed only by women. Less than 1 percent received income in the $500-999 category, and the same percentage reported themselves in the $5,000-9,999 bracket.

It is possible that the on-reservation Papago has had little incentive to complete high school, much less to seek a college degree. Very few individuals earn over $2,000 per year, but when they do, the opportunities seem to be open most often to those with the greatest amount of formal training. As a generalization, however, the data appear to support the remark that they all fare about equally as poorly in terms of income. In addition, it seems likely that no matter what training is provided, it will come to little as long as the individual remains on the reservation. It should be recognized that thousands of tribal kinsmen have not remained, but have, probably because of economic necessity, moved to both distant and near places. In the short run, individual income can only be improved by leaving the reservation.

Consumption Patterns

The source and extent of income are important factors in explaining manpower utilization on Indian reservations. Such data provide

insights into incentives (or the lack of them) to obtain higher levels of education in preparation for work competition. At the same time, insights into possible avenues for training Indians to operate on-reservation businesses can be gained by analyzing how income is spent by income category of families, on what it is spent, and where it is spent. Furthermore, expenditures provide information regarding family access to transportation. This latter aspect is important in that it partially reveals the ability of Indians to commute to off-reservation sources of employment.

Information about these factors was obtained by asking respondents separate questions regarding where their families usually purchased groceries, automobile repairs, and clothing. It was of interest to learn if they usually purchased each category of goods on or off the reservation, part on and part off, or no purchases of particular goods at all.

Purchase of Goods and Services

Table LVII reveals the places where Papago Indians usually purchase various goods and services.

Groceries are usually purchased off the reservation by most Indians. Nearly 44 percent of families obtain essential food items from stores located in areas located off the reservation. However, approximately 19 percent spread their grocery dollars about equally between trading posts on the tribal lands and merchants located off the reser-

TABLE LVII
WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES
(Percent)

Place	Item		
	Groceries	Automobile Repairs	Clothing
On-reservation	36.5	5.3	25.3
Off-reservation	43.7	23.7	58.6
Half and half	18.8	6.6	15.0
Do not know	0.9	0.8	1.1
None		63.7	
TOTAL	99.9*	100.1*	100.0

N = groceries 377; automobile repairs 380; clothing 379.
* Does not sum to 100 percent due to rounding.

vation. More than one-third of families usually patronize on-reservation stores for their grocery needs. Less than 1 percent did not know the source of their family food supply.

The vast physical size of the reservation largely accounts for the magnitude of responses indicating off-reservation sources for grocery buying. It may well be that stores in nearby towns are as near as stores located on tribal property. Some Indians are undoubtedly closer to off-reservation sources than to those on tribal land. In addition, some Indians commute to jobs located off the reservation, and it may be more convenient to patronize stores near their work places than to return to their homes and then travel to distant reservation stores. Alternatively, travel to food markets off the reservation may just be the result of a weekly, bimonthly, or monthly endeavor to get away for a short time.

The purchase of automobile repair services is made predominantly off-reservation. On-reservation sources account for approximately 9 percent as proved by the fact that 5.3 percent usually buy all their repair needs from sources on tribal land and 6.6 percent are divided between on- and off-reservation sources. Nearly 24 percent usually purchased all repairs from outlets in areas adjacent to the reservation. About 1 percent of respondents did not know the pattern of family consumption in this expenditure category. As in the case of grocery shopping, the location of auto repair purchases may be indicative of where some families are located on tribal property rather than a deliberate attempt to utilize services other than those made available at on-reservation outlets.

Table LVII reveals also that the vast majority of Indians, 63.7 percent, do not purchase automobile repairs from any source. Some, of course, may provide their own needs out of sheer economic necessity. Generally, however, such a response in light of the low level of individual and family incomes, indicates the lack of automobile ownership among Papago Indians. Such a condition also indicates the inability to vigorously pursue work opportunities that might exist in neighboring areas. Even if jobs were obtained in areas away from home, many Indians would undoubtedly be dependent upon friends and neighbors to transport them back and forth to work even on a once per week or longer basis.

The lack of available private transportation may also have the effect of considerably decreasing knowledge about work opportunities as they arise. It appears that it could be difficult to travel to

branch offices of the State Employment Service even though an on-reservation office is available. However, it is also apparent that Papago Indians do find a means of traveling to off-reservation areas to purchase food and clothing. The indication is that considerable pooling of transporation exists among tribal members in the smaller reservation towns.

Clothing is more likely to be purchased off the reservation than any other consumer item. Approximately 59 percent identified non-reservation stores as their source of clothing purchase. Roughly 25 percent usually satisfied their clothing needs from trading posts on the tribal lands. However, 15 percent indicated they utilized both sources. The response to the clothing category indicates a possible lack of choice at trading posts. It may be that a variety of styles is available only in nearby nonreservation towns. On the other hand, the entire range of goods and services bought may be closely associated with the credit terms available to Indians at trading posts and off-reservation retail stores.

Method of Payment

It has often been asserted that Indians do not have freedom of choice regarding where they will purchase goods and services because

TABLE LVIII
METHOD OF PAYING FOR FAMILY PURCHASES
(Percent)

Method of Payment	Item		
	Groceries	Automobile Repairs	Clothing
Cash	55.0	67.4	68.4
Credit	43.4	21.1	29.0
Oil company credit card		3.4	
Do not know	1.6	8.2	2.6
TOTAL	100.0	100.1*	100.0

N = groceries 380; automobile repairs 147; clothing 380.
* Does not sum to 100 percent due to rounding.

of their credit needs. It is known that once credit is extended, particularly to families with very low incomes, the possibility of trading elsewhere is no longer a choice; in order to trade in another place,

they would have to refuse to honor credit obligations already incurred. Table LVIII provides insights into this difficult problem.

Obviously, credit arrangements are far more important in the purchase of groceries than any other category of goods and services. Roughly 43 percent of Papago families appear to depend on credit arrangements to obtain food. Fifty-five percent pay cash for groceries at the time of purchase; cash is more likely to be paid by Indians who usually buy from off-reservation stores than by those who buy from trading posts. Credit arrangements are probably more difficult to establish in stores located in adjacent communities. Support for such an assertion appears to be reflected in the automobile repairs and clothing categories. Cash transactions were reported by approximately 67 percent of those who buy auto repairs and 68 percent of those buying clothing. It will be recalled that items included in the latter categories were predominantly purchased from off-reservation outlets. Very few Papago families apply for or qualify for oil com-

TABLE LIX

EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL

(By percent of each income group)

	Item Purchased					
	Groceries		Automobile Repairs		Clothing	
Family Income	Cash	Credit	Cash	Credit	Cash	Credit
$ 0 - 499	56.6	43.4	60.5	39.5	63.8	36.2
500 - 999	56.3	43.8	93.8	6.3	71.4	28.6
1,000 - 1,999	46.3	53.7	66.7	33.3	71.7	28.3
2,000-2,999	43.3	56.7	66.7	33.3	83.3	16.7
3,000 - 4,999	66.7	33.3	77.3	22.7	76.7	23.3
5,000 - 9,999	80.0	20.0	77.8	22.2	70.0	30.0
10,000 and over	75.0	25.0	100.0	0.0	100.0	0.0
Info. not avail.	50.0	50.0	81.8	18.2	67.9	32.1

N = groceries 374; auto repairs 135; clothing 370.

Note: Summation is horizontally by good or service in each income category.

pany credit cards. Only 3.4 percent of the total indicated access to this convenience. It is possible that on-reservation purchases are largely made by families in the lowest-income groups because of the greater need for credit and at the same time a greater inability to ob-

tain it elsewhere. For this reason, we now turn to an analysis of cash and credit payments by family income group.

Method of Payment by Family Income Level

Table LIX provides insights into the nature of cash and credit purchases by family income level. Individuals reporting family incomes of less than $500 per year and between $500 and $999 paid cash for roughly 56 percent of their total grocery expenditures. Both groups were able to obtain credit for the remainder of their food store expenditures. It is possible that the low-income groups in question utilize credit to the fullest extent permitted and are then forced to offer cash for purchases beyond any credit limits imposed.

Groceries. Individuals in families receiving between $1,000 and $2,999 annually purchased over one-half of their grocery items on a credit basis. Once again the extent of credit available may possibly be the result of their particular income levels. Greater credit opportunities are probably provided the higher-income groups as opposed to low-income groups with less ability to repay.

Income groups receiving from $3,000 to 9,999 per year provide their grocery needs more on a cash basis than those who receive lower amounts. Eighty percent of groceries purchased by those in the $5,000-9,999 category are by cash. Nearly 67 percent are by cash in the $3,000-4,999 income category. The record of the two groups just mentioned might indicate a lesser need for credit than is the case of lower-income families. However, those families earning $10,000 per year or more do not pay cash for as much of their total grocery purchases as families in the $5,000-9,999 category. Families in the highest-income group may continue to use credit because of habit or in some cases it could be need for a short period. Some may be paid on a monthly or bimonthly basis, which might cause such families to seek credit near the end of each pay interval. Alternatively, it may well be that it is simply more convenient to pay a grocery bill periodically because several family members purchase groceries on a daily basis.

It is demonstrated, however, that greater need for grocery credit is by families in income groups of less than $3,000 per year. Less need for credit is generally portrayed by those earning above $3,000 per year, with the exception of the $10,000 plus category.

Automobile Repairs. Automobile repair purchases on a cash basis generally increase with income. Individuals reporting family incomes

of $10,000 per year or above declared that all their repairs are paid for at the time services are rendered. Families in the two categories between $3,000-9,999 reveal about equal need for credit (about 22 percent of purchases) to repair their automobiles. Credit need reported by the two groups comprising incomes between $1,000-2,999 was also about equal; each obtained approximately one-third of automobile repairs on credit.

The group with less than $500 annual income demonstrates a greater credit need than any other category; this group requires credit for 40 percent of repairs. The group reporting incomes between $500-999, however, breaks the pattern demonstrated by the other categories. The data indicated that nearly 94 percent of automobile repairs are on a cash basis. This category is inconsistent with the apparent pattern established by all the other groups. Despite the inconsistency observed in the one group of responses, it appears that automobile repairs are obtained largely on a cash basis. The cash requirement demonstrated may partially explain the lack of available transportation on the Papago Reservation. For example, it has already been demonstrated that 60 percent of families subsist on cash incomes of $1,000 per year or less. Automobile repairs are costly in any case, but probably more so for low-income families because of the frequency. The greater frequency for repair needs is based on the assumption that they buy older models from the start. Once major repair problems arise, these groups may be forced to leave their cars idle for substantial periods until the necessary funds for repair become available. In the meantime, such a situation would decrease their ability to either commute to jobs or to seek them in the first place.

Clothing. The purchase of clothing on a cash rather than credit basis is more pronounced than any other consumer item considered in the study. The $10,000 and over group reported all their clothing purchases were by cash. The $2,000-2,999 group was next in cash outlays for clothing, about 83 percent. Cash expenditures were lowest in families with less than $500 annual incomes.

Credit is utilized in providing clothing in various degrees by all income groups with the exception of the $10,000 and over category. The same result is observed with regard to automobile repairs. Greater freedom of choice in selecting retail outlets for consumer purchases is available to the upper-income groups in that less credit is needed. The lower-income groups may have greater need to patronize outlets on a regular basis in order to preserve their credit status.

TABLE LX
METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL
GROCERIES, AUTO REPAIRS, AND CLOTHING
(Percent)

Family Income	Method of Payment: Cash — Percent of Total Purchasing Item (1)Gro.	(2)Auto	(3)Cloth.	Cash — Percent of Total Paying Cash (4)Gro.	(5)Auto	(6)Cloth.	Credit — Percent of Total Purchasing Item (1)Gro.	(2)Auto	(3)Cloth.	Credit — Percent of Total Using Credit (7)Gro.	(8)Auto	(9)Cloth.
$ 0 - 499	19.6	17.0	21.9	35.1	23.2	31.3	15.0	11.1	12.5	33.9	41.7	41.8
500 - 999	12.1	11.1	14.9	21.6	15.2	21.2	9.4	0.7	6.0	21.2	2.8	20.0
1,000 - 1,999	6.7	7.4	10.3	12.0	10.1	14.7	7.8	3.7	4.1	17.6	13.9	13.6
2,000 - 2,999	3.5	5.9	6.8	6.3	8.1	9.7	4.6	3.0	1.4	10.3	11.1	4.5
3,000 - 4,999	5.4	12.6	6.2	9.6	17.2	8.9	2.7	3.7	1.9	6.1	13.9	6.4
5,000 - 9,999	4.3	10.4	3.8	7.7	14.1	5.4	1.1	3.0	1.6	2.4	11.1	5.5
10,000 or more	0.8	2.2	1.1	1.4	3.0	1.5	0.3	0.0	0.0	0.6	0.0	0.0
Info. not avail.	3.5	6.7	5.2	6.3	9.1	7.3	3.5	1.5	2.4	7.9	5.5	8.2
TOTAL	55.9	73.3	70.2	100.0	100.0	100.0	44.4	26.7	29.9	100.0	100.0	100.0

N = (1) Groceries = 373
(4) Cash = 208
(7) Credit = 165

(2) Auto repairs = 135
(5) Cash = 99
(8) Credit = 36

(3) Clothing = 369
(6) Cash = 259
(9) Credit = 110

Expenditure Patterns

Additional information regarding Papago family expenditures on groceries, automobile repairs, and clothing are provided in Table LX. These data both support and extend those contained in Table LIX.

First of all, it may be seen that over one-half of Papago families provide such grocery items as are purchased on a cash basis. Roughly 44 percent of families usually buy groceries on credit. Nearly 20 percent of all families purchasing groceries fall in the less than $500 per year income category, and they comprise 35 percent of all families usually purchasing groceries for cash. Alternatively, 15 percent of all families purchasing groceries are in the same income group, and almost 34 percent of family credit buying of groceries is attributed to individuals in this lowest family income category.

The very same pattern is established in the other consumer categories. There are greater proportions of all families in the low-income groups providing their needs on both a cash and credit basis. It appears that the lowest income group comprises the single most important reservation consumer group merely because of the vast number of families falling in that category.

The data also reveal that the majority of families supply their needs for automobile repairs and for clothing through the use of cash. The percentage of all families purchasing automobile repairs on a cash basis decreases as income increases until the range of income is in the $3,000-4,999 category. At this point, the percentage of total families rises relative to all other groups except the $0-499 group. The $5,000-9,999 income category also accounts for more of all families that purchase repairs for cash than the over $10,000 group and the two groups with income reported between $1,000 and $2,999. Again, this is partially attributable to the greater range of income within the category. It is also attributable to the greater ability to provide cash outlays.

Cash outlays for clothing purchases reveal the importance of families by income categories in both the total of all families and their percent of the total paying cash.

On the credit use side, it is seen that the percent of the total using credit for grocery purchases is related to the size of income. Credit is more important to lower income families than those in the higher levels.

The same is not true in the purchase of automobile repairs. Credit need appears approximately equal for families in income categories ranging from $1,000-9,999. As usual, greater need is found among

those earning less than $500 per year. Approximately one-fourth of all families need credit to purchase automobile repairs and slightly more need it to purchase clothing. The demand for credit is related to the importance of the item for subsistence; the order of importance is groceries, clothing, and then automobile repairs.

NOTES

[1]Office of Projects Development, *Provisional Overall Economic Development Plan, Papago Reservation, 1962,* Bureau of Indian Affairs, Phoenix Area Office, 1962, p. 7.

[2]*Ibid.,* p. 11.

[3]Military personnel were excluded from the survey. Thus the term labor force really applies to the civilian labor force.

[4]*Economic Report of the President* (Washington: U. S. Government Printing Office, 1968), p. 232.

[5]Ibid.

[6]U. S. Department of Labor, *Recent Trends in Social and Economic Conditions of Negroes in the United States,* BLS Report No. 347 (Washington: U. S. Government Printing Office, 1968).

Conclusions

Papago on-reservation individuals have been generally by-passed by the economic gains experienced by the U. S. in the last several years. The Indians are isolated geographically and culturally from areas where most economic activity takes place. Very little nonfarm employment is available for Indians on the reservation. If jobs are desired, the Indians must either commute to work or move away from their tribal homes. Most Papagos do not possess the necessary qualifications to compete for scarce jobs in an unsheltered labor market.

Only 27 percent of the Indians 16 and over considered work their major activity in the past year. A low median educational attainment of eight years is a part of the reason labor force activities are relatively slight. In addition, 73 percent of individuals usually speak an Indian language in the home. This means that English proficiency probably deteriorates over time. Thus, low educational attainment and lack of knowledge of English places the Papago in a low competitive position for scarce jobs in unskilled labor markets.

Papago labor force participation rates are generally low. The overall rate for all age groups is only about one-half that of the U. S. labor force participation rate. However, elderly persons have higher rates of participation than are commonly experienced by non-Indians.

Papago male labor force participation reaches a peak in the 30-39 age group and starts declining after age 40. Labor force entry is also delayed in that the 16-19 age group participates very little in labor force activities. Withdrawal from the labor force among women begins in the 30-39 age group and in the 40-49 group for men. Many Indians prefer not to remain away from the reservation for long periods of time. Once jobs are found off the reservation, the attraction toward quitting and returning to Indian land is strong. Once the re-

turn is made, individuals are not likely to leave again. This is reflected in the 38 percent of working-age persons that gave family responsibilities as their reason for not looking for employment. In most cases this response means that the individual is unwilling to leave the reservation family to go to work.

Ill health or physical handicaps are cited as reasons that 20 percent of the population 16 and over do not seek work. Deterioration of health may well be a factor with many individuals as they reach 30 to 40 years of age.

Persons under 20 and over 29 regard their ages as the reason for not being able to get jobs. Obviously, many Papagos have been given this reason when rejected by employers. It has already been revealed that median education is eight years and English language difficulties are possibly prevalent among many Indians. These factors may be more important to employers of unskilled persons than age. It should also be realized that most unskilled labor markets are constantly characterized by unemployment. The existence of unemployment in the unskilled categories places a relatively heavier economic burden on Papagos than on non-Indians because of the lesser ability to compete for jobs. For reasons such as those pointed out, one-half of Papagos not employed the year prior to the survey had never worked. The year prior to the survey was one of relatively low unemployment rates for the general U. S. labor market. Conditions for unskilled employment possibilities have seldom been more favorable.

Most Papagos who have never worked are females; however, some men are included. The median educational level of men in this category is one year, compared to nine for males that are employed. Median education for females who have never worked is four years; employed women have a median of eleven years of school. Over one-half of the men who never worked are married. This situation is made possible by the system of income sharing which prevails among reservation Indians. It appears that income sharing, although necessary for economic well-being, is difficult because of the lack of job opportunities for Papagos. The Papago unemployment rate is about three times the United States and Arizona rates.

Low incomes prevail among Papago individuals and families. Ninety-two percent of individuals receive less than $3,000 per year and median individual income is under $500. Eighty-five percent of families receive under $3,000 annually and the median income received is in the $500-999 bracket. This amount must go for the support

of relatively large families since the median number of children reported by married persons is four.

Low incomes are the result of very little economic activity on the part of on-reservation individuals. During the year prior to the survey, about 78 percent of females and 49 percent of men did no work at all. Of those working, only 19 percent of men and 5 percent of women worked ten to twelve months. All other workers had jobs that required relatively few months of work.

The lack of year-round work is due largely to the number of Indians that work in agriculture. Thirty percent of the population 16 and over had worked in agriculture over the past five years. One-third of individuals have worked for government, most of it federal. Another 23 percent have worked in the services industry. Within the industries mentioned, most occupational experiences are in agriculture and services. These occupations normally require only menial unskilled tasks that pay relatively little.

The chances for Papagos to become eligible for more demanding jobs will depend upon several factors. One is the need for improved education and skills training; however, education and training alone will not be sufficient to raise Papago labor force participation rates and income. Approximately 64 percent of families do not own cars to commute to jobs, even if jobs were available.

Lack of education and transportation are important factors in explaining low Papago labor force attachment, but the limited range of experiences of the past is another factor. Individuals are likely to retain contact with the labor market by contacting friends and relatives regarding employment opportunities. The limited experiences of friends tended to restrict the Papago horizon of employment possibilities until recently. Greater reliance may be placed on the State Employment Service office to communicate job openings to the people. However, nearly one-half of the working-age population do not look for work because they know none is available. The Papago must look beyond the reservation for jobs. The limited number of jobs available on the reservation makes it obvious that the Papago must place himself in a position to compete for scarce jobs in an unsheltered labor market.